# The Builder.

VOL. XXXIV. No. 1761. SATURDAY, NOVEMBER 4 1876.


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## *The Liverpool Address on Health.*

ANY address by Mr. Hawksley must be interesting, and that was so which he delivered as president of the Health Section of the Social Science Congress in Liverpool. It is probable that it will have disappointed the expectations of many persons, but by many others the tone of it must have been foretold. It might have been safely predicted that Mr. Hawksley would say something about Government interference in sanitary affairs, but not, perhaps, that he would have deprecated the advance of money to local authorities for sanitary purposes from the national exchequer (that money being repaid by annual instalments extending over a certain number of years), and that he would have spoken of this as an interference with the legitimate use of private capital. Clearly Mr. Hawksley would prefer that works of drainage and water supply, and the improvement of the condition of towns generally, in respect of health, should be matters of private speculation for capitalists.

As to the fouling of river-banks with manufacturing refuse, the manufacturers "cannot afford to be put to large expenses in first cost and hourly working, in order to render rivers clear." Perhaps so; for, how do they obtain trade, and, when obtained, how do they keep it? Of multitudes of manufacturers, now-a-days, it may be said that they get it by making inferior articles and underselling other manufacturers, a game which pays for some time, but which, to be maintained, demands the exercise of further ingenuity in the reduction of quality. This is hindered too much when attention is demanded to the manner in which the business shall be carried on. The manufacturer is not making the best use of his time and money in paying attention to the question whether he is injuring his neighbours by his trade. They have, Mr. Hawksley says, their common-law remedy if they are injured, and that should be sufficient for them. It, however, is not sufficient, as a matter of fact; and then, forsooth, we are told from the Chair of Health, at the Social Science Congress, that "numerous Acts of Parliament for effecting sanitary improvements have of late years been passed, but they are nearly all impaired and disfigured by the spirit of centralisation which pervades their enactments, and which operates most depressingly on the freedom of our municipal and other like institutions, and on the development and exercise of the skill and ability in which this country is so redundant."

Skill and ability of the British workman?—for, to judge of the President's meaning by his opening remarks concerning the "working classes," he must mean the workman. Where is the evidence of skill and ability, unless it be in getting as quickly as possible out of hand the thing made? Alas! no; the skill which the British workman inherits from his forefathers is smothered in a whirl of cheap and rapid work, of no intrinsic value; its value is in its being a chattel which the master exchanges for money, paying therewith what wages he must, and keeping of it what he may. The thing made may be a torment to its purchaser as long as it continues in use; but what of that? The manufacturer cannot afford to make it better, he is so hampered by Government interference with the freedom of his trade!

If a river is fouled as a necessary consequence of the exigencies of trade, on the banks of which river, below, some thousands of fellow workmen reside; what of that? We have Mr. Hawksley's assurance that the waters of rivers so fouled, "although as black as ink, have never been proved to give off emanations seriously injurious to the health of the people residing on their banks."

Whatever nastiness may flow past or near to the houses inhabited by workmen who reside on the banks of rivers, it has never been *proved*, says he, that it gives off emanations *seriously* injurious to their health. But that is a mistake, and shows a momentary forgetfulness, for it has been abundantly proved in several instances;—to say nothing of the known deadly results when such water is taken internally.

Touching the much-debated question of the proper treatment of sewage, so as to deprive it of its offensive solid contents, and at the same time render the liquid portion fit for admission into a river or stream, Mr. Hawksley says there are two methods in use for its purification, irrigation and precipitation. Good; but would any one believe that Mr. Hawksley could have said,—"The former necessitates an eventual expenditure of 5*l.* or 6*l.* per head of the community drained; the latter about 10*s.* or 12*s.* per head, and the absolute loss by the former is considerably greater than by the latter method"?

The main feature of the address is its reference to the evils and the imminently dangerous effects of over-population under the circumstances in which this country is placed. Looking at the means of living and the preservation of life and health of the enormous increase of population of the working classes, it appears to Mr. Hawksley a matter of the greatest and most immediate concern and anxiety. After enumerating the present population and what it probably will be,—or would be if we could go on as we have done,—he begs us to keep in mind the fact that calculation has already shown the impossibility of finding room, either at home or elsewhere, for the teeming millions our country produces. "Nor is it," he says, "any answer for an enlightened statesman to say, 'Oh, but something providential will happen,' or, 'sufficient for the day is the evil thereof.' Yes; something will happen, and I venture, without presumption, to tell you from this chair that the evil is even now upon us." Assuming that the increase could go on as it does now, over a prolonged course of years, he asks, "How then stands the question we have at this moment under consideration? Surely thus: at the end of the first generation the population of England will become 42,000,000; at the end of the second generation 74,000,000; at the end of the third generation 130,000,000; at the end of the fourth generation 230,000,000; at the end of the fifth generation 400,000,000; at the end of the seventh generation more than the world now contains; and at the end of the twentieth generation, more than fifteen such worlds would contain, each as densely populated as our globe is at present. Now, what are the inferences we are to draw from these calculations, apart from other momentous acts which I am about to lay before you? It is very obvious that the later events which the calculations tell us might arise, if they could arise, will never occur, because of their essential impossibility. But what is it that will prevent their occurrence? The world is old; older than any of us can surmise, and it is not filled with people yet. Why is this? Because it has sad stories to tell of famine, war, poverty, destitution, and pestilence; of mouths to be filled, and of an insufficiency of food to put into them; of diseases to be cured, which the art of the physician has been unable to arrest in their fatal career; of popular discontent, which no Government has been able to allay. A sadder picture of a possible future could not be drawn from the evidence of the past. The Customs returns enable us to estimate that about 40 per cent. of the most important articles of the food of the people now comes from abroad, and this, too, for the daily sustentation of the existing population of twenty-four millions, a per-centage which will be year by year sensibly added to as the population of the country continues to augment. We look at our Board of Trade, and at our Customs returns,—we rejoice because we find so many millions of exports and so many millions of imports, and we exclaim with vast exultation, 'Eheu! was there ever so great a nation as the English? But we are utterly oblivious of the all important fact that our exports consist of commodities we cannot eat; whilst our imports consist largely of commodities, without which we should surely sicken and starve. Now I ask you, as earnest

sociologists, whether a nation can, in the proper sense of the word, truly say of itself 'I am great,' so long as it is unable, if need be, to maintain itself? I look, indeed, with alarm to the signs of the times, the general restlessness of European nations, and the possibility of our being entangled in a war—perhaps a war of creeds, ultimately to extend itself to a war of aggrandisement and conquest—for, without in the least doubting the prowess of England, and her ultimate ability to come with glory from the fray, I cannot avoid expressing the apprehension that our supplies of food from abroad may be for a time very seriously interfered with, if not wholly interrupted."

Notwithstanding his picture and the terrible inference one might be led to draw, namely, that Mr. Hawksley thinks it is not desirable to save life, we must still strive earnestly to do so; and we must maintain the belief, too, that this may be done. Mr. Hawksley asserts that notwithstanding what has been effected in the way of drainage, water supply, and other works in the interest of health at enormous cost, no effect whatever has "been produced in or towards the prolongation of life." And, what is unfortunately worse, this must remain the state of things. According to Mr. Hawksley, the wear-and-tear of the mechanism of the human frame is due mainly to natural organic changes and the repeated action of its parts, and particularly of those parts which are the subject of involuntary movement. "The human heart cannot beat 100,000 times a day, nor the lungs expand and collapse 20,000 times a day, without suffering the usual effects of wear and tear—effects which manifest themselves in all of us, even when disease has no part in them." And yet the human heart has beaten, and the lungs have expanded at this same rate in thousands of men who have reached 80, 90, and 100 years of age! He adds,—"I do not intend to convey the idea that by sanitary efforts we cannot diminish the undue waste of life we observe on all sides—but most amongst the labouring classes,—a silent waste greater than that of a battle-field."

Surely this is a little contradictory, because if we diminish the waste of life, this is very like prolonging life. While men, women, and children die in thousands, not from the wear and tear of heart and lungs, but from known preventible diseases; while 32 out of every 1,000 die annually in one place, and only 16 out of the same number in another, or 40 out of every 1,000 in one half of a London parish, though only 20 in the 1,000 die in the remainder of the same parish, there can be no question about the necessity for continuing endeavours to bring about sanitary improvements, and there need be no fear but that by so doing we shall produce an effect in the prolongation of life.

There is much to be done, moreover, short of the saving of life. By far the greater number of those who form the increase of population are early deteriorated in physical and moral status. There are churches, but the people do not go into them; and there are schools, which must do something; and there are many minor institutions which may do a little; but all these means together make but very little impression on, or alteration in, the moral status of the people. The evil does not lie in the mere increase of population, but in the undue increase of that part of the population whom nobody knows, and for whom nobody cares; and sentimental philanthropy, even if there were much more than there is of it, will never touch the root of the evil. The people are not taught practical morality, but a variety of doctrines, not two of which are alike in the same Christian country. The substance is lost while a shadow is pursued. And while religionists dispute the people perish before their eyes.

Let us hope that Government will not be deterred from advancing money to local sanitary authorities until the homes of the people,—for so they must be called, however unworthy,—are made fit places for human habitation, and likely to produce healthy and worthy men and women. We resume our old war-cry,—"Homes are the manufactories of men: as the Homes so the People."

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**Carlisle** is to be congratulated on the exhibition of a very low death-rate. Dr. Elliott, the medical officer of health, in his last periodical report, shows, according to *The Lancet*, that the mortality of the town is only a fraction over 11 per 1,000 annually. It is to be hoped that this condition of salubrity will be maintained.

## THE FINE ARTS APPLIED TO INDUSTRY IN FRANCE.

### THE EXHIBITION AT THE "PALAIS DES CHAMPS ÉLYSÉES."

The twenty-five large rooms at the Palais de l'Industrie constituting the "Salon," filled with more than 4,000 works of art, closed on the 30th of June, the last week being devoted to a special horticultural show, and on the 1st of August the "Union Centrale des Beaux Arts appliqués à l'Industrie" opened to the public an exhibition occupying the same twenty-five rooms, together with, in the interior garden, a varied multiplicity of objects sufficiently numerous to gratify the most prodigious appetite for novelty. The whole of the pictures, and more than 600 pieces of statuary, the embankments of the horticultural show, all gave place in less than thirty days, and allowed the exhibition to be arranged which we are about to describe.

The oldest exhibits are here the greatest novelties, and consist of a very complete series of ancient tapestries. Sir Richard Wallace has contributed some very valuable specimens in magnificent repair, which appear not to have suffered by the work of the restorer, the reparation in Paris being so completely done that it is very difficult to detect the restoration from the original work, and hence lovers and purchasers of tapestry had better be careful how they invest their affections or their capital, as they are exceedingly likely to obtain what they may esteem and value very highly, but what would be estimated by experts at a very trifling cost,—in some sad cases considerably less than the value of the repairs.

The South Kensington Museum has contributed the magnificent series of tapestries reproduced from Raffaelle's celebrated cartoons. These reproductions, as is well known, were executed at Mortlake in the seventeenth century, under the direction of Sir Francis Crane, whose pretty cipher is distinguishable on the outer edge of the border. It is to be regretted that two of this series are festooned as *portieri* at the door of the room in which the other five are hung,—however, in places of honour. Why these two were not hung opposite the others it is difficult to conceive, for they are two of the finest,—that of the "Gate of the Beautiful Temple" and the "Elymas struck Blind."

Instructive and magnificent as these famous pieces are, whether it is that the glory of the cartoons, now so happily familiar to us all, leave too vivid an impression of their beauty on the mind to admit of our admiration for the worsted copies, or whether, which is probably the case, Raffaelle's designs are not suited for tapestry, it is quite certain that those in the adjoining room from the designs of Giulio Romano are much more satisfactory as splendid wall coverings.

A series of five pieces from designs by a Milanese painter, are still more lovely in their cool green-gray tones, with their noble borders, not an inch of which fails to supply a meaning and a history; these five pieces are from the collection of M. Jourdain, who may fairly claim to have, and may be congratulated on possessing, some of the finest tapestry work of the sixteenth century.

But the special attraction in these rooms consists of the splendid series of Gobelins tapestry representing the history of Louis XIV., from designs by Lebrun. This room exhibits a truly regal appearance, and completely supplies the historical antiquary with data for the grandest paraphernalia of royalty. They are, of course, not so unfamiliar to the artistic world as many other specimens here shown, from their having been so long known at the Gobelins manufactory. They entirely satisfy even the fastidious tastes of the greatest lover of earlier art. In fact, one must almost admit that as wall-coverings they are far more successful for domestic decorative purposes than some of the older pieces here exhibited.

There are some smaller specimens of Flemish tapestry, grounded in gold and silver, that look precisely like magnified reproductions of the illuminator's art of the fifteenth century.

Some modern Gobelins work, executed between 1820-30, is positively deceptive in the way it reproduces the touch and colour of the painter. Those in particular from the pictures by Rubens appear to have culminated in entire perfection. From the date of these reproductions (1822-1838) to the present time there appears to have been a gradual decline. It has not been, as M. Chevreul has so clearly shown us, from any inferiority of modern colours, or the material in which the worker labours, for in these respects we have the advantage of our ancestors, but the fault is clearly owing to the deficiency of those who design for the copyist. They appear to have entirely lost sight of the peculiar character of the old drawing, such as the artists of Italy or Flanders produced, with so much skill, indeed, as to make one regret that we have only still existing, to show us what treasures we must have lost, the drawings prepared for the tapestry worker in the "Cartoons," as they are called, of Raffaelle. No one, for instance, could be perfectly satisfied with the costly series of emblematic figures that have been produced, and are here exhibited, for the refreshment-room of the Grand Opera-house. Several of these were shown in one of our exhibitions at South Kensington, and were remarkable for their unfortunate resemblance to highly-coloured French pictures.

In this exhibition there are two looms at work, one of the *haute lisse*, and one of the *basse lisse*, and it is curious to watch, from week to week, the slow but exact progress that is made in reproducing the pictures that the artists have *behind* them. At the same time, to the thoughtless observer the beauty of the work is considered to surpass all that ancient art has ever done; and, indeed, when we consider the perfection of the surface, and the exact imitation of the original design, one must admit the highest praise due for, at least, so much dexterity.

Much is said by visitors, and many questions are asked relating to what is meant by the terms *haute lisse* and *basse lisse* which distinguish so many of the pieces of tapestry. An impression exists, and has long existed, in the minds of well-informed persons, that all tapestry is needlework. In a sense it is, but not in the sense that the beautiful workers with the needle attach to that term. We can thus explain the difference between the *haute* and the *basse lisse*.

The *haute-lisse* loom consists of two wooden standards supporting large rollers between them, on which are arranged the threads of the warp. The design to be copied is placed *behind* the workman, while a tracing of it is drawn on the warp-threads, up to the lines of which he works, passing his *flûte* or shuttle charged with the necessary coloured silk or wool between the odd and even threads of the warp, which are kept apart by a tube of glass. From time to time he consults the design at his back, and, when he judges it necessary, goes round to the front of the loom to observe his progress, adjusting any threads that may be out of place with an *aiguille à presser*, as it is called. The progress the worker makes is extremely slow,—almost as slow, indeed, as that of needlework, but the high warp, or *haute lisse*, from the accuracy which can be obtained, and from the minute inspection it undergoes during its progress, is specially adapted for copying such works of art as pictures, where a variety of tones come into play. Indeed, it has always been in vogue for that purpose.

With the *basse lisse* the loom is horizontal, and the worker, seated, leans over the warp, the threads of which he separates by lowering or heightening them with treadles worked by means of his feet. He is directed in his work by means of a tracing of the design to be copied placed below the warp-threads, and it is only in looking through these perpendicularly down on it that he sees what he has to do. The original design, however, is hanging, as in the *haute lisse*, behind him. But owing to the fact that he has always the wrong side of the tissue he is weaving turned towards him, it is only when the whole is finished, and taken off the loom, that he can see his work in entirety. Hence there can be no comparisons of tones, no corrections in the course of the work, as in the *haute-lisse* loom. Like in that system, the worker also uses a *flûte* or shuttle charged with the silk or wool of the colour necessary, which he passes under and over the odd and even threads of the warp, the stitches being driven up close to each other by means of a wooden comb. The worker with the *basse lisse* is, however, able, owing to the position of the loom, to work very much quicker than with the *haute lisse*, and hence the former is chiefly used for ordinary hangings where a simple design has to be copied, or where an even tint of colour pervades the tissue.

Each piece of tapestry here exhibited being in itself a history, to describe either one or all of them fully would be a lengthy business, but the artist who worked for the tapestry manufacturer in the industrious ages of the past very wisely made his piece of tapestry an instructive lesson,

and we are all familiar with delightful old stories of how the youthful mind has been strengthened by the early legendary history and the precious Scriptural lessons gathered from tapestried walls and the corridors and chambers of ancestral mansions.

In addition to these magnificent realities, the work of men who are described in Motley's "History of the Netherlands" as moving through the streets of the Flemish cities on their way to work in the morning like an enormous army, there is a long series of photographs from other tapestries at a distance, those from the Madrid galleries offering far more interesting historical details than any here shown. The subject is a delightful one to dwell upon, and might well repay a most elaborate research. Here is to be found the tapestry of the high warp such as Madame de Gondelaurier admired, and some charming handpieces such as Demoiselle Colombe de Gaillefontaine and the little Bérangère de Champchevrier busied their fair fingers upon; but there is little of ladies' work in this exhibition, some very few small pieces, the whole consisting of the magnificent art and commercial industry of past centuries. We shall say nothing of the tapestry of the Pompadour period, which may be seen here in tolerable perfection, but the pieces in private hands in Paris are so well placed, and still so fresh, that doubtless their fair owners have been unwilling to trust them to comparatively careless and unholy hands. In the rooms adjoining the tapestry, the exhibition of Historic Monuments, although not so attractive to the general public, is perhaps of even greater artistic interest than the tapestry. Here we find together such a collection as has never been seen before, and so complete in itself, so far as the architectural part is concerned, that it is a matter of regret that it should not remain intact for future reference.

The pictures, drawings, and engravings representing old Paris are greatly disappointing, although we admit the difficulty of making, in so short a time, any such collection. The authorities of the city of London some time since, aided by Mr. Gardner, exhibited at the Guildhall many of their topographical treasures, and if it were possible that the Bibliothèque Nationale should admit the overhauling of their collection of Paris views, they could probably here exhibit even a finer show than any of our illustrated Pennants. But at the Palais de l'Industrie they are far behind London in its ability to display pictorially their city as it was.

But as regards the architectural drawings of the remains of Mediæval art, it is impossible to imagine more exquisitely-executed works, and so thoroughly and exhaustively classified as to show one, with very little trouble, representations of examples of schools of architecture that have existed for the last thousand years in France. Here we have examples of Roman buildings, of the school of the Ile-de-France, of the Champenois school, the Burgundian, of Poitou, Saintonge, Perigord, Auvergne, Languedoc, Provence, Picardie, Normandie, Anjou, and Brittany, examples of the military and civil architecture of France. The drawings of M. Viollet-le-Duc are marvels of skill, and appear to leave nothing whatever to desire. Of all artists, architects begin by being the most truthful; *they* never sketch an object without understanding its form and its use. Their subjects never occupy more or less ground than they ought: their perspective, and their local colour at least, are invariably correct, and without doubt some of the most precious works of art that the present age will hand down to future generations will be the elaborately accurate drawings, representing the present condition of antique monuments in France.

The series of coloured studies made by M. Hébert during last year, all but reproducing on a small scale the mosaics of Ravenna and Rome, constitute perhaps the most valuable addition to the knowledge of the lover of archaic tones of colour, besides the extraordinary interest they possess in connexion with the earliest years, or rather centuries, of Christian history; and if the whole series could, as it could easily, be reproduced by chromo-lithography, and published, say by the Arundel or some other similar society, the world of art would have reason to rejoice, for here are to be found in M. Hébert's work, in all the sober and noble propriety of antiquity, the glorious harmonies of colour, as perfectly suitable to modern art and its decorations as it was found a thousand and more years ago, by the patient and obedient artists, who, listening reverently to their teachers, availed themselves of already-established rules and methods. The modern portion of this exhibition is of the character to excuse, we suppose, the not uncommonly expressed opinion in England, that such exhibitions "bore." Of course, there is an enormous amount exhibited that may supply cash, but very little credit, to the producer, and but small profit to the purchaser, but "the brain of the world" even admits some strange irregularities from the strictly beautiful; and the useful here is not invariably associated with the ornamental, notwithstanding the tremendous efforts made by the thousand workers in the art of making things attractive. The names of Barbedienne, Christophle, Deck, and Boucher, and many other ornamentalists, are as familiar to us as Jackson & Graham, Hunt & Roskell, Phillips, Mortlock; but the Frenchmen make the greater show in every instance, except that of jewelry, and we suppose that Messrs. Hunt & Roskell could display bigger results from Sumbulpoor or Golconda, and one is apt to give the palm to the heaviest diamonds, although they may not be quite so well or tastefully mounted as their smaller sisters.

Of clocks and chimney ornaments the world seems as much enamoured as ever, and Paris more than ever desirous to gratify the passion; we all know what they can do in this way, and we all really seem to want for our chimney-pieces some of their pretty things, and "pity 'tis" that so few of us give our time to the acquirement beyond the means of acquiring, to a tolerably correct taste on the subject of how to decorate that chimney, the corner and the hearth of which we are so proud of. The last new things in the art of the ceramists are certainly farther than ever from the correct, but notwithstanding there appears a demand and a supply for vases roughly painted with poor imitations of bad pictures, the firms of Messrs. Ulysse, of Blois, continue faithfully not only to reproduce the established favourites in the delightful art of faïence, but continue to successfully design new objects in the true art spirit.

The makers of luxurious furniture have here perfectly succeeded in reproducing costly objects for household use, contenting themselves, however, with sixteenth, seventeenth, and eighteenth century art, and avoiding altogether the furniture of the Gothic period, that people in England try to, but will *not* like. Who can be the purchasers of the many hideous objects here shown? How is it that such gross taste is here exposed by the side of the most exquisite refinement? The Parisian shop-keeper can tell you the standard of excellence that he naturally approves is precisely that which experience has shown him leads to large pecuniary gains. The taste of the modern Asiatic who spends his hoarded wealth in Europe has lost its archaic, or what we so nearly got into trouble by calling "barbarous" character, and he spends his money with Oriental magnificence, and has but little time during the happy days he passes in Paris to question the correctness of the objects he sends to his agent to be packed for home. The things glitter with gold and enamel. They are expensive, and are precisely adapted for mantelpieces, windows, and corners of rooms, and are exceedingly like what he has seen in many highly respectable quarters. Attractive splendour is everywhere, and the thousands who are allured to purchase seem rarely to experience a glimmer of the caution "don't."

Beautiful, decorous, enchanting simplicity has no place here, and one looks in vain for well-designed, useful, beautiful objects; nevertheless, as if Parisians knew that we are not all Rothschilds, they have contrived to make one of the attractive features of the exhibition to consist of a sofa, so ingeniously constructed that the most inveterate hater of the idea of a "shut-up bedstead" would bow before this new deceiver.

The Education section of the exhibition displays many highly interesting and useful methods and means of making difficult things more easy to understand, and the interest taken in this portion of the exhibition by Mme. la Maréchale and many of her lady friends redounds greatly to the credit of the Republican court.

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**Architect v. Clerk of Works.** — With reference to a list of tenders, in our last, for a house in Cadogan-square for Major Arbuthnot, Mr. F. N. Kemp writes to say that he was the architect employed to make the drawings, and did make them; and that the gentleman who attached his name to the list as architect, is only the clerk of works employed to carry them out.

## ART AT THE SOCIAL SCIENCE CONGRESS: A CRITICISM.

In spite of doubts experienced or felt in various quarters as to the advisability of the Social Science Congress touching upon the field of art, we are inclined to think that one result of the experiment has been to encourage the idea of its repetition as a section of future programmes. Although the Marquis of Huntly in his opening speech entirely ignored the Art Section, and though its proceedings were treated with only the most grudging and apparently unsympathetic notice by the press, the local papers in a good many cases dismissing some of the best papers with a mere paragraph, stating that Mr.—— read a paper advocating so-and-so; yet there seemed to be a feeling engendered that these subjects were not so alien from the original objects of the Congress as was at first supposed, and there were even suggestions that on a future occasion the field of art taken into consideration might be extended, and music and poetry considered in their relation to Social Science. The latter, however, is so much more than an art that the subject would really merge into the relation of literature to society: the subject of Art must, for the purpose of the Congress, be limited to those arts whose boundaries can be clearly defined by their employment of a special technique. This can hardly include poetry; but it may undoubtedly include music, which was mentioned more than once during the Congress as a fitting subject for consideration at future meetings. The degree and manner in which this and other fine arts contribute to the happiness, instruction, and elevation of society forms unquestionably an important element in that systematic study of the conditions of human welfare which has in modern times developed into Social Science; the point to be seen to is, that the discussion of such subjects should not stray from the special objects of sociology into questions relating purely to art criticism or technique. In the main this object was very well kept in view at the recent Congress.

A general review of the proceedings shows that we were at least not much beside the mark in some of the suggestions we offered in advance in a previous number (p. 965, *ante*). We took occasion then to point out that the mind of the people was in a totally different relation towards art and artists from that which prevailed in the great period of Italian painting, for example: that whereas then art was a matter of national interest and universally in demand, now the project is in the first place to create if possible a demand for it: and in regard to the question of street architecture we dwelt on the necessity of any improvement therein arising from and complying with practical conditions of modern town life. This latter branch of the subject was ably worked out, in just the spirit we should have wished to indicate, by Mr. Stevenson and Mr. William H. White; and the central address of the Art Department, that of Mr. Poynter, went almost entirely towards indicating how a new life in art must arise from a more deep and genuine popular love of art and desire for it, insomuch that the title of the address, "The Influence of Art on a Nation," might almost as fitly have been inverted into "The Influence of the Nation on Art." It is true that Mr. Poynter did in one rather extraordinary sentence express the opinion that at the best period of Italian art the mass of the people were as indifferent on the subject as they are now. We should have said that there was a large amount of, at all events, indirect evidence to the contrary; but the accuracy of the expression depends partly on what is meant in speaking of the mass of the people. There was a stratum of ignorance and indifference, no doubt, among the lower orders then as now, which may be left out of account in the argument; but the important distinction would seem to be, that there was then a large middle class which was interested in art, and there is in the England of to-day a large middle class who care about almost anything rather than art. Taking the view (and we believe it is in the main a perfectly sound one) that a demand for an intellectual and a true art is necessary before the supply is likely to be forthcoming freely, we come to the rather puzzling position, that we must endeavour to educate the nation to care for what art it has in the first instance, in order to induce the demand for what is better and higher. No doubt this seems at first sight, and is in some

measure, a sort of practical arguing in a circle; but the idea must not be too hastily condemned on that ground. Art is, in fact, a thing which seldom comes by a logical process. What is hoped by those who believe in the improvement of art in England is, that if we can get the bulk of the nation (or a qualitative if not a quantitative majority) to see and feel that a true artistic spirit in the surroundings of their lives is a thing to be much desired, that we are very far from it now, and that it is worth while to think seriously about it, we shall have laid the foundation for an artistic England in the next generation. And a step in this direction is to get the English public into the habit of thinking of art as something that is, or may be, in close connexion with their daily lives, and not as a far-off or *recherché* luxury. In this relation, whatever tends to popularise art among the many, even if not at once fulfilling the highest standard of culture, is a gain, and it was in regard to the importance of this popularising element that the work by the Art-Union of London in this respect was made the subject of a special statement at the Congress.

The practical portion of Mr. Poynter's very admirable address amounted, as we have observed, to not very much more than a conviction that the more universal establishment of instruction in drawing, as a necessary part of education, would have its effect in developing a spirit of art, a love of beauty; not that teaching the rudiments of geometry, and perspective, and freehand-drawing to any number of children would give them artistic instincts, but it would be the means of "giving a chance to natures which might otherwise remain undeveloped." And, furthermore, he counted on the gradual influence of museums of artistic productions for giving rise to a refinement of taste on the part of those who frequented them; though adding a caution against expecting too much from this source of general education. This is not much encouragement, and it might be said that it needed no Art-Congress to tell us that; but Mr. Poynter's cautious words may have had a wholesome effect in checking the Utopian anticipations of some artistic reformers. The notable quality of his address lay in the broad view which he took of art as a quality to be exemplified in all classes of work, and not merely in painting and sculpture. The breadth of view evidenced in his address was, in fact, rather remarkable as coming from one whose own reputation is specially connected with painting; and we might have been tempted to think the latter art had been unnecessarily or disproportionately slighted, had not the speaker avowed it as his intention to give prominence to the economic and social side of the subject rather than to painting in particular, because there was a fear that the high price of pictures in the market at present was causing a rush of all the best artistic genius of the day to that branch of art, to the neglect of others. Mr. Poynter deserves special thanks for having, as a painter, gone out of his way to point out the broader view of art which should prevent us from restricting the definition to one or two departments of artistic expression, even though these may be justly regarded as the highest and most intellectually interesting. And this idea of the unity of art, we may observe in casting an eye over the reports of the various papers read, seems to have been a good deal uppermost among those who took prominent part in the proceedings; and we repeatedly find attention directed to the fact that art is to be looked for in small as well as great things; that it is to be found, as Mr. Eastlake put it in his paper, "below the pedestal of a statue and outside the frame of a picture." To find this idea of the unity and pervading character of art, which has been always practically a reality in every great artistic period and with every thoroughly artistic nation, thus receiving, though so late in the day, a general theoretic sanction among those Englishmen who give any thought to such matters, is certainly evidence of an advance of critical feeling and critical faculty among artists and amateurs. The recognition that "art" is something of universal meaning, behind and beyond the several processes called "the fine arts," is one absolutely essential to any true ideas upon the subject. Mr. Poynter put the matter in a very suggestive way in the opening sentence of his address, in the remark that "the very essence of good art is to be found in honest and good workmanship above all things"; a remark which comes very near to the definition of Mill, who called art "the endeavour after the perfection of execution." But while welcoming this wide and generalising perception of the essentials of art, we should guard against expanding this idea into a kind of levelling estimate of art, which would place a trinket or a vase on the same footing with a work of painting or sculpture. There is certainly danger of this view being actually and seriously preached in some quarters; so much so that a very thoughtful contemporary writer, Miss Frances Power Cobbe, publicly expressed not long since a decided opinion that the present mania (as it almost is with the wealthier section of society) for ornamental furniture and decorations, so far from being a proof of a prevalent artistic feeling, was rather an indication that such a feeling did not exist in the highest sense, otherwise people would not be content with works of art of this less intellectual class; and there seems some reason for such a remark when we find one essayist at the Congress (Mr. Audsley), after admitting that he did not know much about painting, expressing the opinion that the "widely-diffused idea" that art is especially to be found in framed and glazed pictures has been one of the most injurious to popular love of art. This is riding the hobby too far. Great as is our love of tasteful and artistic furniture—long as we have done what in us lay to recommend and promote its production—we cannot but point out that pictorial art has, intellectually considered, an interest and a standing such as no mere decorative design can ever attain; and we have no hesitation in saying that a room in which the furniture and decoration were open to question, but which was hung with masterpieces of the painter's art (or even engravings and etchings from them), would present much more of intellectual interest than a room completely and tastefully furnished in a harmonious style, but garnished with inferior and merely "decorative" paintings, whose only value was that they harmonised with the general scheme of decoration (a style of painting which is getting carried quite to the extent of an abuse in England at present), and that the poorly furnished room with the good pictures would give evidence of a higher culture on the part of its owner also. Nor is the contrary opinion to be necessarily gathered from the discourse of Mr. Poynter, who, we imagine, would have no wish to wrest from his own art its true and high dignity, as appealing to the highest feelings and passions of humanity in a way which mere decorative art never can achieve. Taken in relation to its specially expressed object, his address has no such tendency, and was in every way an admirable one, one or two points in which we will touch upon again; and we may take opportunity here to express our sense of the inadequate and unworthy reception accorded to it by certain journalistic critics who, like Gallio, "care for none of these things," except as the occasion for a piquant leading article, like that of the *Daily News* of the 20th ult., the writer of which managed at least to prove that he had not any idea of the real scope and intent of Mr. Poynter's argument. That, when an artist of genius gives a lecture of more than usual ability and comprehensiveness on the subject of national art, a newspaper professing to represent the opinions of a good proportion of the more intellectual section of Englishmen can put the occasion to no more worthy purpose than to indulge a few shallow sneers, is only rather too good evidence of the deep-seated indifference to this class of subjects in the English mind.

The question of the improvement of the painter's art, in its highest sense, received, however, due attention at the Congress in the two papers read by Mr. Richmond and Mr. Cave Thomas, on the encouragement of mural decorations. Here again it may be observed that the art is considered in its connexion with general design, architectural and decorative. The art of mural painting has been so much neglected in England, and its claims to attention and development are so high on many accounts, that it was only natural that a decided effort should be made to "awaken" society on this point, on such an occasion. The development of mural painting was specially urged, however, by Mr. Richmond and Mr. Cave Thomas (whose views did not materially differ), on account of the influence it might be expected to exercise in raising and ennobling the English school of painting, introducing a loftier and broader style, and one rendering necessary for its due cultivation a higher intellectual training of the artist. The exercise of such a branch of painting involves, as Mr. Thomas observed, "the casting aside of all the trivialities of art for the sake of a severe simplicity and grandeur"; and Mr. Leighton, commenting in the same strain on the remarks which had been made, said that "as long as the English people gave themselves up to the seductive charms of realistic art there was very little hope that the severe style of the great heroic works of antiquity would be encouraged." Now there is a great deal of truth in all this, with a certain forgetfulness of part of the truth. Speaking as architects, we feel every sympathy with a view of the painter's art which tends to bring him into closer relation with the architectural designer; to render them fellow-workers in realising one great ideal, and to ally painting with architecture in one great decorative scheme. There is much that is exceedingly inspiring in the idea; nor can we question that anything like general adoption of mural decoration in our public buildings would tend to quicken public interest in art, and would afford new and much more numerous opportunities for the practice of the higher class of painting; and it is not improbable that it would also have the effect of turning the minds and the studies of our artists towards a higher type of design than they are very much in the habit of cultivating at present. And this, it may be said, is a good deal to gain, and the chance of it is quite enough to warrant making the experiment on a large scale. Certainly; only let us be allowed to question whether this system would necessarily or probably have all the effect in giving reality and a national character to modern English art, which some persons seem to expect. Doubtless, that heroic style, which Mr. Leighton desires to see better "understanded of the people," and which he has done his best to exemplify in his own beautiful works, is the highest manner in art when it is true and arises really from the spontaneous feeling of the artist, and answers to that of the people. But we cannot avoid the vision of a manufactured grand style, a pre-determination to be heroic and severe, such as has been seen before in art, and is one of the most unreal of all things. And when it is said that only by the encouragement of mural painting can we have any "real, living, national art," we may ask whether the school of which Teniers and Ostade were the ornaments was not a living and national one? When we are told that mural painting is necessary to promote a great style of pictorial art we may ask where there is a painter with a greater style (considered as apart from his subjects) than, for instance, Velasquez, a confirmed painter of easel-pictures. When the realistic school of painting is disparaged in comparison with a more ideal and conventional standard, we may ask, which is the most real work, the most valuable possession to the nation, the "Blind Fiddler" or the "Daphnephoria?" These are questions certainly germane to the matter. We are most desirous, once more, to see mural painting encouraged. We only wish to guard against it being too hastily accepted as an infallible panacea for producing artists and an artistic public.

Mr. Watkiss Lloyd's sketch of the influence of academies on the art of a nation amounted on the whole to a conviction that academies can do much in the promotion of art if they are well organised for giving systematic teaching and systematic rewards, and maintaining a high standard which should make it a coveted honour to be in their ranks; and that this could hardly be accomplished without extensive State subsidy; in reference to which the writer of the paper instanced the high standard maintained by the national theatre in France, which could not have been maintained without governmental aid. Readers who remember how often we have urged a similar foundation of a national theatre in England will not question our general adherence to the idea of subsidy, if found necessary, as a feature in the scheme. For the rest,—Mr. Lloyd's ideal academy would doubtless be more efficient than any body of that kind at present constituted in England: and perhaps one may say that no such institution can very well do harm. At the same time it is quite true that academies have not ever done much to promote an artistic spirit in a nation; their practical value has consisted in furnishing a systematic technical education to students; and the remarks of Mr. Aitchison, in the discussion which followed the reading of the paper, to the effect that academies had in the whole history of art been established only when the art had passed its climax, and required artificial means to prop up its decaying influence, is almost strictly true historically, though the idea seemed to cause as much astonishment among the audience as if it were something that no one

had ever heard of before. Mr. Aitchison's parallel with literature, in which, as he observed, no Academy of Fiction had been required to produce Thackeray and other great writers, was quite to the point; and any one disposed to believe too much in academies in the abstract has only to recall the relation between French literature and the French Academy. Granting the desirability of an Academy, however, Mr. Lloyd's suggestions are very well calculated to promote its usefulness in an administrative point of view. His proposition of a Central Academy of Arts, to which special academies of sculptors, painters, and other branches of artists, should send representatives, looks very complete and very dignified on paper. One unfortunate thing is, that artists of really original genius are generally too independent and self-regarding in their modes of feeling to work smoothly in these complicated pieces of social machinery; and it is but too probable that a good Academician under such a scheme would be a mediocre artist, and a powerful artist but a lukewarm Academician, from causes which are inherent in human, or at least in artistic, nature, and not easily eradicable. On the whole, of the two chief suggestions for the improvement of the painter's art in England, and the furtherance of a knowledge and comprehension of it on the part of the public, we place more faith a good deal in the development of mural painting than in Mr. Lloyd's reformed Academy.

To the suggestions more directly connected with architecture and decorative art, we may take an opportunity of returning.

## ON MURAL DECORATION.*

"How best can the encouragement of the practice of mural painting, especially in fresco, be secured?" The direct answer to this question is a very simple one, viz., by making the public comprehend the important and beneficial influence which the study and practice of mural painting exercise over the whole of the arts of design, as well as the rank which it holds as an index and monumental record of the culture of a people.

The use of fresco, or of some other suitable method of mural painting, would, as a matter of course, follow upon the persistent pursuit of the highest style of decorative art. The method of fresco has long since been recognised as that which best fulfils all the required architectonic conditions. Nevertheless, it should not be forgotten that the question as to the method of executing mural painting is quite secondary to that of the kind of art which is fittest to adorn a grand national edifice.

It is very doubtful whether the Grecian painters ever painted directly upon the wall. But no one doubts that whether the Grecian painters painted directly upon the wall or upon panels to be let into the wall, the Grecian decorative painting was, as the Italian mural painting, monumental and grand in its style. Fresco would have been a great boon to the Grecian painters, but to Rubens, Teniers, Rembrandt, and some of the painters of the Spanish school, perfectly useless. The mural painter requires a more comprehensive education and training than that which is ordinarily considered sufficient for the painter of cabinet pictures. Therefore, to transfer the painter who has indulged in all the exuberance of oil painting to the limitations of a higher style, and of a more difficult method, is almost sure to end in failure, and to prove unsatisfactory both to the public and the artist himself, as the country has already experienced to its cost.

The grandest existing examples of pictorial art are executed in fresco; this important fact is too often forgotten. Of course, I refer to the works of Michelangelo and Raffaelle in the Sistine Chapel and the Vatican. But there are also fine Italian works in *tempera;* fresco and encaustic have been used in Munich; Kaulbach adopted the water glass process in the new Museum at Berlin; Maclise and Herbert the same process in the Houses of Parliament; whilst the large picture by Paul de la Roche, the Hemicycle, in the Paris Academy of the Fine Arts, is painted in oil upon a stone wall. Yet all these works which we have enumerated, although executed in different methods, in the main, fulfil the conditions of monumental painting.

We may perceive, then, that there is a far more important question before us than that of "how can we best encourage any special method of painting?"—be that even fresco,—and that is, "how can we best encourage the study and practice of that kind of art which is the fittest to adorn our monumental, our grand public buildings?"

As I have been a steadfast advocate of the practice of the method of fresco, from the time I acquired a thorough knowledge of it under Cornelius and Hess until now, the foregoing remarks will not be interpreted as designed to slight that noble method of painting, but to more forcibly impress upon the student the kind of study which must be pursued if fresco or any other suitable method of mural painting is to be of the least use to him. Fresco, notwithstanding recent attempts to supersede it, may still prove superior to the water-glass and encaustic processes; but, on the other hand, it is not at all improbable that the resources of modern chemistry may furnish us with some method which, whilst it involves fewer technical difficulties, will, in all other respects, be equally adapted to the purpose.

The absurdity of painting in oil upon walls into the composition of which lime has entered, is so evident that it can never be attempted again. The lime and its salts are certain to cause the rapid decomposition of such works, which usually end in turning perfectly black. The inclination of oil colour on plaster is always towards the dark and heavy, whereas fresco has the reverse tendency, or to become lighter; and though this is also a defect, it must be admitted that it is the lesser evil of the two, for the gloomy depth of the changed oil colour breaks up the architecture by producing the effect of deep recesses in the wall, whereas fresco, though it becomes lighter, never destroys the breadth of the wall surfaces.

But let us proceed to examine and describe the characteristics of that grand style of art which is alone suited for the purpose of the highest order of mural decoration, and also to state the reasons why it is the bounden duty of the nation, the true policy of the nation, to encourage its study and practice.

In glancing over the history of Grecian and of Italian art, one cannot fail to be struck,—first, with the different kind of art which was practised by the great masters; secondly, with the different kind of organisation which was adopted for the education of the artist; and, thirdly, with the very different relation in which the arts stood to the people. Now, these three essential differences between ancient and modern art furnish us with the very strongest reasons why we should revert to mural painting on a grand scale, to the system of scholarships, and to the ancient art policy.

1. The difference between the kind of painting of our own time and that of either Greece or of Italy is, that the works of English painters, for the most part, consist of cabinet pictures suited to the tastes of private purchasers, and aiming at the picturesque, whereas the works of the great masters were chiefly monumental paintings, *i. e.* works designed to play an important part,—the leading part,—in the grand whole together of some great public building.

This different or grand style of art which was practised in Greece and Italy is usually styled *decorative* art; but the word *decorative* has been so degraded in more recent times, by being used to designate all kinds of loose and intemperate ornamental painting on the walls of palace, theatre, and private mansion, that whenever the word "decorative" is now used, even with the best intentions, it is inevitably depreciatory. It must, therefore, be discarded in favour of either the word "mural" or "monumental." We must not, however, lose sight of the fact that the finest works of art which remain to us were "decorative," using the word "decorative" in its highest sense,—that is to say, the greatest works in painting and sculpture ever executed were designed to adorn public buildings.

That different kind of art,—that grand "mural" or "monumental" art which was practised in Greece and in Italy,—requires a greater mental grasp, a greater facility and versatility of invention, and of adapting art to a purpose, than is required in the painting of easel pictures.

In all periods of national, and, consequently, of architectural magnificence, mural painting and sculpture have in a greater or less degree played a conspicuous part. Architecture was in the great epochs of art the mere setting to the gems of painting and sculpture.

These two noble arts were not then, as now, the last consideration; they were, in any project for a grand public structure, the first.

The numerous public edifices which have of late been completed in France and Germany have almost in every case been embellished with the productions of painting and sculpture. This application of the imitative arts has prompted inquiries into the principles which should regulate their adaptation (especially that of historical painting) to architecture.

The best Italian mural painters were always fully impressed with the necessity of adapting their works to the architecture, so as to make one harmonious whole. The nature of fresco fits it for such a purpose. It is, indeed, impossible to produce that illusion which is considered so desirable in oil pictures. The same depth of shade is not in the artist's power, but this very circumstance, whilst it compels attention to composition and form, indicates the proximate limits of colour and effect, and renders fresco more directly appropriate for the purpose of mural painting.

The same question which is now proposed for solution has been considered and practically answered, with various results, in Munich and Paris. The experiments which have been made in those cities by artists of eminence, and the opinions that have been expressed thereupon by competent judges, form, therefore, an important addition to the evidence of older works of art, and may assist in the examination of the subject.

A French writer, commenting on the great picture painted by Paul de la Roche in the *Beaux Arts* at Paris, says:—"When first the architect opened to the painter the doors of a recently finished edifice, and showed him the walls which were to be adorned by his skill, an elevated art arose, the essential principles of which were at once defined by the conditions of this union. This art may be called mural, or monumental, painting. Its characteristics are so pronounced and so distinct from easel painting, that perhaps the relation between the two might be aptly expressed by the circumstances attending their respective modes of execution, by comparing the durable walls of a temple with the fragile stretching-frame under which the easel trembles."

Monumental painting, then, being employed to decorate large and solid surfaces, the artist is no longer intent on the reproduction, however ingenious, of *reality* in its most limited sense. A dignified subject is essential; and to this genius is required to add ideality, or elevation of treatment. Lastly, simplicity, the indispensable characteristic of great works, must be apparent in the composition and the execution. Hence arises the especial condition of excluding from mural or monumental painting all that may interfere with grandeur of effect,—all that aims at literal imitation and illusion. It is to be remembered that the painter is, in this case, not alone; his art is employed together with the work of the architect, in decorating the same interior. There ought, therefore, to be no difference of purpose between those two exponents of one and the same thought. Although it may suit modern requirements to sever art into specialities, art itself is one and indivisible. It is further to be remembered that the walls must always be felt to exist under the decorations that cover them, and the skilful and magical effects by which the painter of cabinet pictures gets rid of the surface would here be out of place. Thus, under whatever point of view this question is considered, monumental painting must still be limited to an elevated region, where all is grand, simple, and unaffected. It was thus that its style was defined by the great masters who, from Giotto to Michelangelo, covered the walls of the palaces and temples of Italy with their works. They painted in fresco; and Michelangelo, foreseeing the decline of the grandest style, and the superior energy and self-denial required of its votaries, had reason to call easel-painting an occupation for women. From this period (the middle of the sixteenth century), the tradition of elevated art was unstable. Succeeding painters, down to Pietro da Cortona, poured over vast surfaces their crowded compositions in which the qualities of fresco became useless. To complete the decline of monumental art, it remained only to neglect the process of fresco itself. Accordingly, from the beginning of the seventeenth century oil-painting was introduced, commonly on walls, particularly in France; and the artists looking on this mode of



* By Mr. W. Cave Thomas. Read in the Art Section of the Social Science Congress, at Liverpool.

painting as an opportunity for displaying the effects of foreshortening, perspective, and colour, produced what the Italians called, "vast machine," differing only from the decoration of the theatre by better-studied forms and a more finished execution. We have no right to consider modern artists responsible for this practice; it is to be dated from those painters who first lost sight of the conditions which regulate the style of painting when that art is applied to architecture.

The very necessity which exists for studying the drawing and composition of large mural paintings, separately in cartoons, is in itself a highly beneficial training, as the mind of the painter, being freed from the blandishments of colour and effect, is the better able to concentrate its attention on the perfections of form and composition. Monumental painting has thus earned the distinction of the first place amongst the plastic arts. In the cartoon the artist determines his composition, and studies every portion of it from models,—in fact, makes a work complete in every respect but that of colour,—an exact working drawing; but although monumental painting admits of the design being studied to any extent in cartoons, yet in its ultimate execution it is not an art for the hesitating and timid. It requires a grand style of drawing, a broad and simple treatment, an eye steadily fixed on the whole effect, and an energetic and rapid hand, all qualities which, it must be confessed, are rare in these days. Palomino, in his work on fresco-painting, referring to the methods taken by the painters of the "Decadence" to evade the study and care which it demands, observes, in speaking of Michelangelo and Raffaelle, that since their time artists had become impatient of so much toil, having found that their enthusiasm evaporated before the period arrived for the execution of their work.

In this brief exposition of the general characteristics of mural painting, we see that monumental painting in all its phases makes a demand upon the highest intellectual qualities of the artist. Mural painting is in its highest development—is in its stately grandeur—the very epic form and measure of painting; and the relative value of all art work is ultimately adjudged as greater or less as it either approaches or falls short of the highest mental standard. It is on this account, on account of mural painting demanding the very highest mental qualifications on the part of the artist, that it has the greatest claims to national encouragement. For it is the highest order of mind ruling in each department of intellectual culture which makes the greatness of a nation.

2. Having now given a brief sketch of the characteristics of that different or monumental style of painting which prevailed in Greece and Italy, we will proceed to enlarge on that second point of difference which we noted, viz., the difference in the ancient mode of educating and training the artist. This was consequent upon the very different nature of the work, the grander kind of work, upon which, of old time, the painter and sculptor were employed. The superiority of that ancient and different system of art-education is manifest in its results, and should strengthen our determination to encourage the practice of mural painting by all the legitimate means at our command.

Our modern system of art-education consists in founding art-school after art-school. Now, most unfortunately for the student, the modern art school only conducts him to the threshold of art. All the more important part of an artist's education commences precisely where our modern system abandons him. They did things very differently in Greece and Italy. They were better political economists than we, at all events in art matters. They knew of old time that the only direct and practical means of raising a grand school of art was to employ painters and sculptors on great public works, but they were not content with this mere theoretical knowledge, they acted upon it.

In those days, every public building as it was erected became a school of art, and the great demand for mural painters and for sculptors led to the adoption of the system of scholarships. Every Italian painter of mark had, as you well know, his retinue of scholars, without whose assistance he never could have got through the immense amount of work which was generally confided to him. Now, to make these scholars of any use to him, he had not only to teach them to draw, but to think. The master had to impart to them not only his technical experience, but his theoretical views, to give them the reasons for doing this and that. Thus the scholar received a thorough training in art, and was very frequently, long before receiving his first independent commission, master of his profession. We may see, then, that another great reason for encouraging mural painting is, that it leads to an art schooling of a thoroughly complete and practical kind,—a schooling infinitely superior to that of our own times, when most English artists have to lose half a life in discovering what they might have been easily taught in a comparatively short space of time. In this country the system of scholarship is almost unknown, or at all events has not been adopted; and English painters, for the most part, die without the rising generations being theoretically or practically one whit the better for their labours.

Another great advantage of a national school of mural painting is this,—that it trains the faculty of adaptation to purpose or of design. The painter when he has a great public building to adorn is not free to will what he will, as on a piece of canvas: he has to do what is set him to do, under certain conditions of position, light, &c. A certain unity of style has to be preserved through a series of works, and that not only in the pictures themselves, but also in the subordinate surroundings and ornamentation, down to the most trivial accessory. The great national edifices in Greece and in Italy were real schools of design, and were the cause of their art manufactures attaining the first rank. We are too apt to think of Phidias only as the great sculptor of the frieze and pediments of the Parthenon, but we may gather from works on ancient art that he ruled all art matters in his day. The very tapestry work, for the robing of the Minerva, was under his supervision and direction.

We have tried our own system of art-education now for a great number of years, and I do not think we are altogether satisfied with it. Why, then, should we not adopt that ancient system of art-training which was productive of such magnificent results? I myself feel perfectly assured that had we spent a tithe of the money on the adornment of the public buildings with mural painting and sculpture that has been spent upon art-schools, English art and English art-manufactures would have made a much greater mark in the world. I trust, then, that I have again shown good cause why mural painting should be encouraged.

3. A third point of difference which we noted between the relative conditions of ancient and modern art was the very different relation in which the arts stood to the people. This was the result of the very different art-policy which was favoured and obtained in Greece and Italy. The leaders of the people during the periods of the two great art-epochs did not collect specimens of ancient art, and form museums of antiquities for the purpose of raising artists, in Greece, for one very good reason, that there were no antiquities to collect. Greece had to create her own art-treasures. The Italians took the same course. The Italian magnates did not turn their attention to antiquities till the character of Italian art had already been determined. The leaders of the people in the two great art-epochs became, either from culture, public spirit, or religious fervour, the promoters and encouragers of art, and more especially of mural or monumental painting.

The leaders of the people employed painters and sculptors to embellish with painting and sculpture either their private mansions or the grand national edifices. The people were thus taught to take an interest in all great public buildings, and to desire that their monumental edifices should wear an air of magnificence, and prove lasting records of the state of culture to which their cities or their country had attained. The grand example set in ancient days is, I am happy to say, not altogether lost on modern times. I believe I may venture to state that we owe Mr. Poynter's fine picture of Atalanta to Lord Wharncliffe's taste for mural painting.

Our object, therefore, should now be to find opportunities fit for the display of mural or monumental painting on the large scale we have just indicated; for this is precisely the class of painting which, more than any other, requires encouragement beyond the means of private patronage. The want of such encouragement has long been regretted, not by professors only, but by the few who have turned their attention to the state of painting in England,—a proof that the promotion of historic art is an object of interest with at least some portion of the public. The decoration of public buildings with a view to moral or religious purposes has always been necessary for the formation of a school of historical painting.

Knowing the vast importance which the encouragement of monumental painting is to the manufactures as well as to the intellectual grandeur of the country, I have not only advocated its encouragement by the pen, but have from time to time made suggestions in the hope that they might lead to a grand initiative being taken. One of these was a proposal to build a grand gallery, to be called the National History Gallery. It was to consist of a series of halls, each of which was to be devoted to some special period of English history, and embellished with mural paintings and sculpture on a grand scale. Here is an enterprise worthy of the enthusiasm of that devoted band which desires the encouragement of mural painting.

Liverpool has now an opportunity of emulating the public spirit of ancient days, and of setting a noble example to the rest of the kingdom, if she will but resolve to employ artists to adorn her public buildings, on a magnificent scale, with painting and sculpture, and with a munificence that she can well afford. But if she take the initiative, she must be cautious in her proceedings in this important art-reform; she must not labour under the very common misconception that decorative art is an inferior kind of art, and either call in ornamentists or house decorators. Nor must she imagine that giving painters commissions to paint frescoes here and there will bring about an era of mural painting. She must place a public building, or at least a single hall of a public building, under the charge of one painter, some one in whose talents she has confidence, under the charge of one who must be able to do more than paint a picture: he must be competent to conceive a series of pictures, and the mode of appropriately setting these in ornamental accessories, so that when completed the interior shall wear the aspect, not of patchwork, but of one compacted whole. Neither must Liverpool expect too much at once, and that all that she may at first have done will be immortal work. She must be prepared to have erasures as the art of mural painting shall progress. Neither Greece nor Italy leaped at once to the finest art. Each reached it as the reward of patient labour and well-directed study through the centuries. Therefore, the sooner a beginning is made, the sooner will the country be crowned with perfect work. Neither must Liverpool fall into the mistake of placing painters under architects. The painter and sculptor must be supreme in their spheres.

And now I trust I may have, in some measure, proved that the practice of mural painting is of the highest importance to art and the art industries, and that the country ought to take immediate steps for its revival and encouragement.

## THE POSITION OF ARCHITECTURE.

### By Mr. J. A. Picton, F.S.A.*

Union amongst those having a common pursuit has always been desirable, and never more so than at the present day. From an artistic point of view, no man possesses a monopoly of the sense of beauty in design and fitness in art. Man's creative power really consists in the combination of ideas and forces already existing, and to be found by observation on every side. Nothing tends so much to bring out these as the interchange of ideas, conference, discussion, continual efforts to realise in a concrete form the kaleidoscopic images floating before the mind's eye. Professionally considered, the advantages of union and co-operation are great. There is the *esprit de corps* which ought to distinguish every liberal profession, and which can only be maintained by the acquaintance of its members with each other. Separate and apart, each man looks upon his neighbour with an eye of suspicion and jealousy; wrong motives are imputed by mistake. Actions are misinterpreted, gossip and tattle intervene, and a low standard of professional etiquette injurious to the best interests of all concerned is necessarily the result. Whatever may be said of poor human nature, I have always found that the better we know each other, the more attachment and respect we feel. Every profession has its own standing to maintain against an outside public, who are always ready to serve their own interests without much consideration for others, and it is only by friendly

* Address delivered as President of the Liverpool Architectural Society at the opening meeting, Oct. 4th.

union and mutual support that this tendency can be counteracted. Again, there are points of practice continually occurring, and difficulties arising, where the aid of friendly counsel would be most valuable; such, for instance, as the effect of the various building and sanitary acts and by-laws, which are not unfrequently framed in error and oppressively carried out. The strength and combination of materials, and the introduction of new inventions and appliances, are also subjects on which experience and advice may be advantageously interchanged. I greatly fear that the architectural profession has not been sufficiently alive to the disadvantages of disunion, and has suffered accordingly. Compare for a moment the position of the architect with that of the members of other professions. The doctor and the lawyer are supreme in their several vocations. Neither patient nor client presumes to question the opinions pronounced on their respective cases. The engineer commits his employers to the expenditure of untold sums of money, in the great majority of instances without check or control. Even the surveyor and valuer is master of the situation. In the lending of money on mortgage, or in the settlement of railway compensations, although subject to severe collisions, his clients never presume to dictate the conclusions at which he should arrive. Far different is the fate of the unfortunate architect. The great majority of those who expend money in building consider themselves quite capable—if not of designing—at least of dictating to those who do. The magnificent schemes which are broached, the inflated ideas which are indulged, only to collapse when the estimates come in, are familiar to you all. Then there is the perpetual meddling as the work proceeds, one alteration leading to another necessarily springing out of it, until a bill of extra work is incurred ending in disputes and litigation, the blame of which too often is thrown on the architect. These evils are not altogether of modern growth. Sir Christopher Wren had the same cause of complaint in his day in the continual interference and thwarting of his plans by those in office who had the power. Think, again, of the abuses connected with the system of competition designs; the paltry premiums offered, which yet are eagerly grasped at by needy aspirants; the extravagant demands made for extensive accommodation at a price altogether inadequate; the debasing influence of eager rivalry, leading too often to tricky and meretricious colouring, false perspective and imperfect construction; the touting, canvassing, and jobbery in the adjudication; and it will be found that the architect is subjected to a martyrdom not suffered, at least to the same extent, by any other profession.

In France they manage these things differently, if not better. The architect as a skilled expert is compelled to pass through a certain course of instruction and examination, and obtain a certificate of competency. Competitions are not unknown and are frequently very severe, but they lie within a limited circle, and are adjudicated by skilful arbitrators. When an architect is appointed to construct a building, he assumes a responsibility and exercises an authority hardly known in this country. Whether a system of this kind would be compatible with the principles of free trade and open contract, so dearly prized amongst ourselves, is more than questionable; but, at all events, the evils existing demand a remedy, and certainly indicate the necessity of some closer union and association for mutual protection.

So much, then, for the strictly professional aspect of the case. But beyond this there is a wide field open for cultivation, for which societies of this kind are eminently qualified. Architecture lies on the border land of art and science, partaking partly of both, and is connected at various points with almost every subject of human inquiry. The wide realm of natural beauty in form and colour lies open for exploration. The adaptation of these in conventional forms to the purposes of design and construction is the foundation of all taste. The study of the harmonies and proportions to be found in natural objects has been the fertile source of many of the most successful constructions. Thus the broad base and upward curves of the massive oak tree gave to Smeaton the idea of stability of form, which he worked out in the Eddystone Lighthouse, whilst the tapering chambered shell of the Turritella furnished Sir Christopher Wren with the principle of construction, so beautifully carried out in the spire of St. Bride's, Fleet-street.

Since it is the object of the art of architecture to provide shelter and convenience for mankind in all their various occupations and pursuits, there is no information on any subject of human inquiry which can come amiss to the architect, who may say with one of Terence's characters, "Homo sum; nihil humanum à me alienum puto." History and antiquities, chemistry, geology, natural history, voyages and travels, philology, may all be laid under contribution, and serve either to indicate the wants, or to suggest the materials and method of supplying them. A signal instance of the versatility to which I am alluding is to be found in the recent elaborate work of M. Viollet le Duc,—so well known as an architectural writer,—on Mont Blanc, its geology and its glaciers. In the introduction, he thus alludes to the connexion of the subject with his architectural pursuits:—

"Je devais en quelques mots à ceux qui voudront me lire, expliquer comment et pourquoi un architecte a laissé de temps à autre l'architecture pour entrer dans un domaine qui semble n'être pas le sien.

"De fait, notre globe n'est qu'un grand édifice dont toutes les parties ont une raison d'être; sa surface affecte des formes commandées par des lois impérieuses et suivies d'après un ordre logique.

"Analyser un groupe de montagnes, leur mode de formation, et les causes de leur ruine; reconnaître l'ordre qui a présidé à leur soulèvement, les conditions de leur résistance et de leur durée au milieu des agents atmosphériques; noter la chronologie de leur histoire; c'est, sur une plus grande échelle, se livrer à un travail méthodique d'analyse analogue à celui auquel s'astreint l'architecte praticien et archéologue qui établit ses déductions d'après l'étude des monuments."*

In the few remarks I propose yet to make, I will not drag you through the wearisome round of the history of the styles; whether architecture originated in wood or stone; whether the stream was derived from a single fountain head, modified in passing from age to age and from country to country, or if the sources were as numerous as the races who developed them. Suffice it to say, those who have preceded us in our art adapted it to the times, places, and circumstances in which they found themselves. Their work cannot be revived unless we could bring back the institutions, thoughts, feelings, and associations by which they were surrounded. To resuscitate a dead style is as impossible as to revive a dead body. We may gather the dry bones from the valley of vision and put them together in orderly array; nay, we may clothe them with a certain amount of beauty of form, but still these forms want the free play and vigour of life, and we have no power like the prophet to say, "Come from the four winds, O breath, and breathe upon these slain that they may live." Our predecessors in every age had their own work to do and we have ours; not by servile imitation, or by galvanising into spasmodic action obsolete and abandoned styles, but by studying the wants of the age and the enlarged means at our disposal, by going to nature for analogies and principles, and clothing their adaptations with such beauty as the wide stores of nature and art enable us to select and apply. In this way we shall work in the spirit of the old masters, and best carry out their aspirations adapted to a different age and different circumstances.

The present aspect of architectural taste and design offers some curious phenomena. In every previous age of the world down to the period of the Renaissance, and even subsequently, the provision for human wants in the way of building, and the decoration of the structures, followed in each age and in every land a single and specific course. Styles might differ in one country from another; but each country and period expressed its ideas in one architectural language,—its own vernacular, so to speak. The Renaissance of Classical forms in the sixteenth and seventeenth centuries did not alter this; when the revulsion from Mediævalism took place, it carried public opinion with it all along the line. It was the revival of Gothic architecture at the commencement of the present century which first introduced the element of confusion, which was further increased by the rage amongst the *dilettanti* for pure Greek forms brought before the public by the researches of Athenian Stuart and others. Fresh light breaking in from such a multitude of sources, the vision of our architects became dazzled; the public taste became distracted, and a laxity of tone set in which has been anything but favourable to the progress of architectural design.

For the revival of Gothic architecture a great deal may be said. Its first application was naturally to ecclesiastical structures, where it had the prestige of historical and traditional associations. It was further promoted by the reversion to patristic literature and rubrical development of an earnest party in the Church of England, in which the Gothic Renaissance operated both as cause and effect. The energy and progress of the Roman Catholic Church in England of late years, which has manifested itself in a great degree by the erection of many buildings pure in style and beautiful in design, has contributed powerfully in aid of the movement. But even in the adaptation of Gothic architecture to churches, there are many signs of unreality and sham. I will not go back to the time of Thomas Rickman, with its cast-iron window tracery and crockets, its wooden galleries and stucco fronts. I will take the church architecture of the present day, in which there is no doubt an amazing amount of progress, many of the buildings recently erected being noble specimens of liberality in the founders, and of taste and skill in the designers. Even here there is a want, an unavoidable absence of the singleness of mind which characterised the grand old masons of the Middle Ages. William of Sens, or Wayn-flete, or Wykeham, when they designed the buildings which have perpetuated their names, never paused to consider the "period" from which their details should be taken,—whether their style should be Norman Transition; First, Second, or Third Pointed; whether their tracery should be geometrical, flowing, or perpendicular. An English author proposing to write a book does not hesitate whether it shall be composed in Latin, French, or English; nor even whether it shall be in the Anglo-Saxon of the Venerable Bede, or the half-obsolete phraseology of Chaucer or Gower. He writes in the current language of his time, intelligible to all. So all the architects of preceding ages carried out their ideas in the prevailing style of their age and country, improving and advancing no doubt, but true to the principles which were ready to their hand. The necessarily eclectic practice of the present day is certainly inimical to originality in design. The architect is fettered within the limits of the style or period adopted, and precluded from combinations and adaptations which were perfectly open to the architects of old. The German architects have felt this so much that they have thrown off all restraint, and in their Gothic designs adopt combinations of any style or form which recommend themselves by their intrinsic beauty or convenience. The result may be matter for discussion; but the church of Au, at Munich, and several churches in Berlin, may be pointed to as very successful examples of this freedom of treatment.

If instances were wanting of success in working in a common style with the introduction of original features, perhaps no better illustrations can be found than the works of Vanbrugh, at Blenheim and Castle Howard. The basis of the designs is the ordinary Italian style of his time; but unrestricted by this he has developed features of grandeur, salient points of picturesque effect, which were beyond the appreciation of the small critics of his day, but in which succeeding times have acknowledged the stamp of originality and genius.

In the eclectic styles of the present day, especially in Gothic architecture, such a mode of treatment is hardly possible. The artist aims at purity and consistency, and hardly dares venture to introduce a feature not found in the specimens of the period. Hence a certain degree of feebleness resulting in a prodigious amount of what Falstaff calls "damnable iteration." Genius, of course, will break through fetters of this kind. The designs of Mr. Street may be cited as presenting striking

* "I owe it to my readers to explain in a few words how and why an architect has from time to time forsaken architecture, to enter upon a domain which does not seem to belong to him.

The fact is, our globe is nothing but a huge structure, of which all the parts have a reason for their existence; its surface assumes forms which are enforced by imperative laws, and connected according to logical order.

To analyse curiously a group of mountains, their mode of formation and the causes of their decay; to recognize the arrangement which has prevailed at their elevation, the conditions of their resistance and duration in the midst of the atmospheric agencies; to note the chronology of their history; this is, on a larger scale, the carrying out of a methodical analysis, analogous to that within which the practical architect and archæologist restricts himself in establishing his deductions after the study of the monuments."

instances of original power, whilst keeping strictly within the essential principles of his prototypes.

In the almost exclusive application of Gothic architecture to the erection of churches, it is a question whether the whole system is not an anachronism. In the absence of any association of ideas with the past, it is hardly likely that for Protestant worship any one would have adopted the basilica form of nave and aisles. The piers present serious obstructions to seeing; the lofty centre and low sides are acoustically bad; the open roofs are hot in summer, and in winter render inevitable currents of cold air. For a ritual in which the people only indirectly partake, and in which processional displays are a constant feature, the basilica form is admirably adapted; but in the Protestant churches of England it is only the sentimental association and the presence of the old cathedrals constantly before our eyes which reconcile the mind to a large amount of inconvenience and unsuitableness. For all purposes of Protestant worship, nothing can be better adapted than the London churches built by Wren, which it is now the fashion so much to decry. The seeing and hearing are good, and the interiors are generally of noble design. If Gothic architecture be essential, it is rather remarkable that attention has never been directed to the churches in the south of France, which are in many cases without aisles, with vaulted roofs in domical compartments. The application of this principle would be a relief from the usual monotony.

From churches the Gothic style has spread to secular buildings: banks, town-halls, courts of justice, council-chambers must reprodnce the outward and visible forms of Mediævalism. Sometimes this has a grand and noble effect, as in a great hall with its arcaded perspective, but applied generally the eye becomes wearied with the perpetual repetition of the same forms. This is to a great extent the case in the exterior of the new Town Hall at Manchester, which, with many merits, especially in its exterior, satiates the eye externally by its multiplicity of pointed arch openings, all nearly alike.

If there be one class of buildings which more than any other should associate itself with Roman architecture, it is that of courts of justice. The Romans gave laws to the world, and the elaborate code established by them forms the basis of law over nearly the whole of Christendom, and has had considerable influence amongst ourselves. If association is to be taken into account, nothing could be so appropriate as the visible connexion and affiliation of the external surroundings of the administration of justice with the great lawgivers of the world, whilst the Roman buildings, in their design and construction, are every way suitable. But "*Dis aliter visum est.*" The great centre of law and fountain of justice in our land is in one style of Gothic, the palace of the Legislature where the laws are framed is in another, and the various official buildings where the national business is transacted constitute an Italian colony between the two. We have thus an architectural "olla podrida" suited to tastes the most diverse.

The application of the Gothic style to street architecture cannot, on the whole, be considered a success. We meet occasionally with a few designs combining taste and simplicity, but in the great majority of instances there is a flutter and straining after effect which too often results in bizarre eccentricity. As an example of this I may point to the buildings in Church-street, erected by the late Mr. E. Pugin, in which the design is defaced by useless buttresses standing on nothing, and only adding superfluous weight.

In the city of Chester the rebuilding in the old streets has been very appropriately carried out in the original style, refined and adapted to modern convenience. In the erection of country villas and mansions, a modified style of Gothic seems to prevail; and many recent erections display considerable taste and effect. The freedom of treatment, which is so valuable in accommodating the design to the surrounding features, sometimes degenerates into a studied irregularity which mars its object by the very labour bestowed upon it. Whatever the cause may be, we seem committed at the present day to a plurality of styles of architecture.

Fashion in this, as in all other departments, exercises a powerful influence. Pure Greek, after running its course through town-halls and churches, of which that of St. Pancras is a memorable instance, came down to villas and terraces, and finally to shop-fronts, and having run its course may now be considered—in this country at least—utterly extinct. Italian architecture maintains its position, especially in our towns; and from the facility with which it can be handled, and the fact that the ordinary features of our common houses have been derived from that source, it is not likely to fall into desuetude.

The latest innovation is that of the so-called Queen Anne style. It is curious to note how "the whirligig of time brings in his revenges." It is not so long since the modified Italian, brought over from the Low Countries, and patronised from the Restoration to the reign of George I., was held up to scorn and ridicule, as impure and meretricious. We now find it brought prominently forward and introduced into public buildings of high pretension. That the Flemish architecture is capable of very picturesque effects, none who have seen the results in Amsterdam or Antwerp will deny; but to imitate defects, such as heavy-timbered casements, with small squares of glass studiously imperfect, is contrary to every principle of good taste. Our new Exchange, in Liverpool, which is free from absurdities of this kind, has many features derived from this school of art. Whether it will stand the test of criticism, in comparison with the stately structure which it replaced, time alone can show.*

* To be continued.

## CONVERSAZIONE OF THE ARCHITECTURAL ASSOCIATION.

### DISTRIBUTION OF PRIZES.

THE opening *conversazione* of the Architectural Association was held on the 27th ult. The walls of the lower galleries in Conduit-street were hung with a large number of water-colour and other drawings of architectural subjects by Messrs. R. Phené Spiers, John O'Connor, J. D. Crace, Aston Webb, and many others equally well known, and there was a good display of tapestry and furniture by Mr. A. Lasenby Liberty, Messrs. Jackson & Graham, Collmann, and other firms, in addition to a large number of art objects and curiosities lent by various friends. By the courtesy of the Council of the Royal Institute of British Architects, their meeting-room and library were placed at the disposal of the Association for the evening, and the former apartment was devoted to the exhibition of the drawings and studies submitted in the various classes of the Association during the past session.

About nine o'clock the formal portion of the evening's proceedings commenced with the distribution of prizes, all consisting of standard works on architecture, decoration, &c. The following is the list of prize-winners:—

*Class of Design.*—In this class ten members of the class submitted a sufficient number of sketches to entitle them to compete for the prize. The first prize was awarded to Mr. Sydney Vacher (78 marks), and the second prize to Mr. G. Langford (60 marks). Honourably mentioned.—A. W. Hennings, 55 marks; H. M. Robinson, 49 marks; L. Stokes, 49 marks; F. Hemings, 27 marks; J. Twerdale, 27 marks; J. W. Fisher (country member), 9 marks; C. Dark, 3 marks; C. Richardson, 1 mark.

*Elementary Class of Design.*—First prize awarded to Mr. H. W. Burrows, who seems to have attended and submitted a design at every meeting of the class. Second prize to Mr. H. W. Stock. The judges considered the designs of Messrs. James Robbins and J. F. Henessey worthy of honourable mention.

*Class of Construction and Practice.*—First prize awarded to Mr. Turner. Second prize to Mr. Jackson.

*Class for the Study of Colour Decoration.*—Prize awarded to Mr. H. W. Pratt.

*Essay Prize.*—The judges reported that the essay of "Student" (Mr. R. Philip Day,) on "Concrete as a Building Material," was entitled to the prize, because, firstly, it noticed, in a practical common-sense manner, the important points connected with the composition and employment of this artificial building material; and secondly, although suggesting nothing new, the essay did not misstate facts or pervert the too slight historical description it sketched, while authorities quoted were, in every case, scrupulously recorded.

*Measured Drawings Prize.*—The judges reported that they were of opinion that the large amount of conscientious labour involved in measuring and delineating the five subjects of different character submitted by Thomas C. Yates, the candidate under the motto "Spes" (namely, Lincoln Cathedral,—Triforium in Presbytery, Chapter-house Entrance, Choir-stalls, Roman Pavement; Lindstone Hall,—Drawing-room and Breakfast-room), entitled him to receive the first prize. They awarded the second prize to Mr. George W. Browne, the candidate under the motto "Labor ipse Voluptas," for his measured drawings of Felmanham Church, Bedfordshire.

*Prize Fund Prize.*—Awarded to "Foi est tout," H. M. Robinson, four drawings. First Honourable Mention.—"Dos" (A. W. Hennings), five drawings. Second Honourable Mention.—"A Student's Attempt to Design," five drawings.

Mr. H. C. Boyes, the president, then delivered an address, the pith of which we will give in our next.

In response to an invitation by the Chairman, Professor Kerr said he always looked upon the Association's *conversazione* as the opening of one more session of architectural endeavour in London. In the course of a week or two there would be another opening meeting upstairs, under the auspices of the Royal Institute of British Architects. It struck him that there was a signal difference between those two meetings which rendered it peculiarly appropriate that the Association's opening meeting should be held first. Both societies gave their attention to the progress of architecture, and he presumed that all, or nearly all, the members of the Association, like the members of the Institute, were directly or indirectly more or less sincerely interested in the progress of architecture. When this subject was discussed upstairs, it was idle to ignore the fact that it was associated, in the minds of those who discussed it, not so much with the progress of architecture as an art as with the progress of architecture as a business. Men who were fifty or sixty years of age, and who had passed a considerable portion of their lives in the profitable pursuit of architecture as a profession, were not likely to be led away by enthusiasms (he would not say "whims") of any kind. Their attention was fixed upon the solid, substantial results of successful practice. But downstairs, under the auspices of the Association, there was a constantly maintained enthusiasm for the more sentimental, and, therefore, perhaps, more charming view of the subject. On such an occasion as the Association's *conversazione* the elder members of the profession who were present felt that they were putting on the shelf for a time the mere substantialities of business (which were all very well in their way, and without which they did not pretend for one moment that they would be able to exist), and were engaged in setting before themselves higher considerations and objects. Now, considering the circumstances of this country as a field of practice for the young architects in connexion with the Association, the fact should not be overlooked that the country was peculiarly constituted as regarded public opinion with reference to any such subjects as architecture. It was an old story that we were a nation of shopkeepers; it was a formula constantly used that we were a commercial community. That this was the case, architects and others found to their melancholy cost; for, with the public generally, commercial considerations availed to the exclusion of all others, and sooner or later architects were entirely disappointed in expecting anything like public-spirited encouragement of their profession. As an instance of the "commercial" way in which architecture was viewed by the public, he remembered that a country gentleman desired to build himself a house. He was at a loss (as such gentlemen generally were) to discover any person who could assist him in building it, but in the course of a ramble on the Continent he made the acquaintance of a certain noble lord, who should be nameless, to whom he communicated his intention. Said the noble lord,—"Let me give you my advice: don't have anything to do with those 'swell' architects; I know them all, and they are of no use! But there is a man in my corps who is a good practical man: he will do you justice." Now, that was not exactly the ground upon which the Architectural Association would consider that the question of architectural practice of the higher order should be based, but if, amongst cultured men, architects were looked upon in such a light, it became extremely necessary that the younger aspirants to the profession should be extremely careful to maintain the dignity of their art and profession, and therefore in connexion with the Association it could never be out of place to urge upon the members the necessity for maintaining—even at the risk of being charged with over-enthusiasm—a high tone of judgment, and a seriousness amounting to a grave self-assertiveness as regarded their functions in the State. This would prevent outside interference, and would preclude the setting up of low standards and the pulling down of high ones. There was too great a tendency on the part of the public to regard architects as mere "ornamentists," and this tendency was, in his opinion, increased by the acts of architects themselves. The members of the Association and all young architects should bear in mind what Mr. Boyes had expressed in his able address respecting the fact,—which became more and more plain the longer a man lived and practised as an architect,—that the average Englishman wanted very little art. If his business matters were properly transacted he would forgive his architect for the total absence of art in his building.

Now, one circumstance which sprang out of that fact was that a certain class of architects, in their over-anxiety to advance the progress of art in such channels as the design of furniture, had caused the public to give currency to the idea (which he was afraid was becoming a matter of permanent belief amongst the more cultured classes) that a 'swell' architect was not to be trusted, but that the man to be trusted was he who made no such pretensions to art. As a matter of course, architects denied that this was true, but it was exceedingly necessary that architects should avoid leading their artistic desires too far afield in subjects which might be collateral, but which detracted from architecture when they were too closely identified with it. At the meeting of the Social Science Congress in Liverpool the other day a great deal of attention was bestowed on the subject of the design of furniture by architects. Now, the designing of furniture was a very pretty art, but, at the same time, it was greatly to be regretted that it should be identified with architecture at all: it had not been so in modern times until lately. No doubt members of the architectural profession, with the very best intentions, and with the greatest success in some cases, devoted themselves (for reasons of their own, or from causes over which they had no control) to the designing of furniture, and no doubt they did much to lead the public taste in the right direction, but they ought to let it be distinctly known that they did not design furniture in their capacity *as* architects, or the public might be led to believe that the qualities which sufficed to enable a man to excel in the comparatively trifling work of designing furniture would necessarily enable him to excel in the more magnificent work of designing buildings. The proprietors of one of our theatres lately determined to reproduce one of Shakspeare's plays upon a complete scale, and promised that the costumes, &c., should be archæologically correct. Now there could, of course, be no objection to that, especially if the people who went to see the play were competent to judge of the archæological accuracy of the costumes, which he (Professor Kerr) did not think they were. The proprietors of the theatre accordingly retained the services of a gentleman in the architectural profession, and possessed of archæological knowledge, and they publicly announced that the costumes were designed by that gentleman; and so, indeed, they were, but the people at the head of affairs in the theatre found that they could save a little money by sundry little deviations from the designs made for the costumes and heraldry. If these deviations were made, argued the managers, no one would know. What followed? Another gentleman of eminence in the profession went to see the revived play, and found it necessary to criticise the heraldry and to question the archæological accuracy of the costumes designed by his brother architect. A controversy was got up on the subject, and the result was that the public had come to the conclusion that architects were adding one more "whimsy" to the many with which they were already chargeable, and that, from being engaged in archæology up to the hilt, and in ecclesiology up to the hilt, and, more recently, in furniture-designing, they were now going in for the designing of costumes for stage plays. He thought that the rising architects who were identified with the Association, and who would be the leading architects of the country twenty years hence, could not be too careful in avoiding such courses of procedure as would lead the public to entertain the impression that architects devoted their attention to anything and everything but architecture.

Mr. James Fowler (mayor of Louth) made a few remarks as to the success of last summer's excursion of the Association, notwithstanding the much-regretted absence of that devoted friend of the Association, Mr. Edmund Sharpe.

Mr. F. H. Fowler (of the Metropolitan Board of Works) followed with some observations, in the course of which he said that, in view of the great public improvements which had been, which were being, and which would be carried out in London and other great cities, there were great hopes for the future of architecture in this country.

Mr. H. H. Statham said that, returning for a moment to the subject of the excellent address of the President, it seemed to him rather a curious indication of the turn which architectural thought was taking just now. We heard year after year of new revivals of old styles. For the past three years the subject had been the "Queen Anne" style. At first it was approached very doubtfully, then it was rather "pitched into," and now we were looking to what should be done when it had gone into its grave. He quite agreed with the President as to the advantage of taking a broad view of the subject, and of cultivating a knowledge of several styles rather than keeping to one. But why should not that principle be carried further? Why should not architects, instead of seeking to excel in any one or in any six styles, aim at the attainment of "style" quite irrespective of particular styles,—style in the abstract? This was a very abstruse subject, into which he did not propose to enter, but, broadly speaking, when the architect thought merely of the practical requirements of his building, and of the most practical way of using his materials so as to produce the best effect, he *made* "style." In illustration of what he meant he quoted a passage from the last volume of lectures by M. Viollet-le-Duc, to the effect that a modern musket had "style" in it, because it was suited for its purpose; but if it were sought to make the musket like a cross-bow, it would at at once lose that element of style. When architects had learned how to attain to style in the abstract, they might then go one step further, and consider "style" with reference to the right treatment of buildings for the present age. That was a phase of the question which had been very much neglected. In the buildings of our great towns what had to be done was first of all to make them healthy to live in. This was one of the great problems put before architects in the present day, and young architects would do well to keep constantly in mind the sanitary requirements of large cities.

Mr. R. Phené Spiers having made a few remarks, the formal part of the proceedings was brought to a close.

## WARMINGTON CHURCH, NORTHANTS.

Warmington parish church has just been reopened, after being for eighteen months in process of restoration. The church, which is dedicated to the Blessed Virgin, consists of a nave, side aisles, chancel, north and south porches, and tower, surmounted by a spire. The ground story on each side of the church is of the Transitional period; the tower, with its broached spire, is of the Lancet period; as also the west doorway, which is adorned with a profusion of tooth and flower ornaments; and the whole of the belfry windows and the three tiers of spire lights are also filled with tooth ornaments. The clearstory windows, with cusp foliations, indicate more approach to the Geometrical period. The wooden vaulted roof, of the Early English (or Lancet) period, is a very fine and somewhat remarkable one. The edifice has been repaired and restored throughout, the old material having been retained where possible. The work, which has cost somewhere about 4,000*l*., has been carried out under the direction of Sir Gilbert Scott and Mr. Ferrey. The work has been contracted for by Mr. Thompson, of Peterborough, and Messrs. Barnes, Dale, & Clarke have done the woodwork.

Sir Gilbert Scott was present at the luncheon given after the re-opening of the church, and in responding to the toast of his health as architect, said it was a very curious circumstance that certain districts of England—and it was the same in other countries—were more replete with beautiful architectural examples than other districts. In England there was a district, not wholly in this county, but part in Lincoln, part in Norfolk, Cambridge, and Huntingdon, which might be marked out as the favoured land of architecture, particularly with regard to village churches; but what the cause of that was he did not know. If the Architectural Society were getting through their labours of a practical kind, they should devote themselves to investigating the history of the county as it bore upon the religious houses, and the causes of the wonderful fulness of the district of glorious specimens of architecture. It might be that it was the religious houses, and particularly was that the case with the great Abbey of Peterborough, which influenced it; but not wholly that. It might be that by their example they led other influences to bear strongly upon that; but not wholly that. In this particular instance they saw that "the cellarer" had had much influence; but if "the cellarer" produced such effects, what would the Abbey itself do? Having mentioned other churches in the district, the building of which had been influenced by the abbeys of Durham and Salisbury, Sir Gilbert went on to say that whether it was the race of people that inhabited the county—the good old Mercians, who were said now to be the central stem of the many-branched English race—whether it was their innate energy which led them to do it, he did not know; but we found the same influence pervading the earliest attempts. Look at Brixworth, among the numbers of Anglo-Saxon churches, all finer than in most other parts of the country; and in Peterborough, what was more glorious than the Norman nave, choir, and transepts, or more admirable than the Early English west façade of that church? Coming back to smaller buildings, they found in Warmington Church, so far as it did go back, a perfect carrying out of that principle, that this county had produced the best architecture at all periods. The earliest was not quite Norman, but almost. The arcades of the nave were semi-Norman, of that period when Norman was verging into Early English, perhaps about 1180 or 1190, just as good as they could be with moderate means, and nothing could be better in a moderate and simple way than they are. They were not quite so rich as the contemporary work at Stamford, but quite as good. The tower was of the same age probably as the west front of Peterborough Cathedral, not quite so good, but quite as rich as the work carried out at the patron abbey. At the same time that the tower was erected, the aisles of the church were rebuilt, but they were not such as they now stand; they were much narrower. The windows of the south aisle were built about the same time as the tower, though they were afterwards taken down and replaced in a different position from what they were in at first. The roof, however, was at a steep slope, and as there was not room for such magnificent windows, that was provided for by gables, each window having its own gable. In the course of the restoration one of those gables was discovered. The widening of the aisle was effected in the reign of Henry III., or in the reign of King John, and that widening was accompanied by the adding of the clearstory, which did not exist at the time the nave was built, or at the time the magnificent tower and spire were added. The clearstory being raised, it was found that a high-pitched roof would almost bury the newly-erected tower, and so a flat roof was put on, and there was added to it that beautiful timbered groining, the details of which were the most beautiful of that age. It was the age which produced Westminster Abbey, but he did not think that even Westminster Abbey contained any capitals so splendid as those of Warmington. So beautiful were they that when Butterfield was building St. Margaret's he sent to Warmington to get a cast of the capitals. About the same time the chancel was built, and, therefore, he should say that the nave was erected about 1180, the tower about 1220, and the widening of the aisles, the clearstory and the groined roof were completed about 1280, or a century later than the parts now existing. The chancel was of the same age, but from the walls having given way, the south wall was rebuilt in the fifteenth or perhaps the sixteenth century. The roofs of the aisles were renewed at a later period. The chancel screens were beautiful specimens of the later period, or the middle of the fifteenth century, most invaluable coloured decoration remaining. The pulpit did not differ much from them. The two screens he could not mention without a somewhat painful feeling, because as long as they were not restored one lived in dread that they would not be. There were little chantry or chapel screens at each end of the north and south aisles. The remains of that in the south aisle were as old as the aisle itself. They belonged to the reign of Henry III., and not to restore that part of the church, as it had come down to them would, he thought, be the most lamentable and most grievous error into which they could fall. There were also some beautiful remains of the screen which inclosed the chantry or chapel at the end of the north aisle. Their history was of curious value, not from their earliness, but oldness. Coming to another part of the history of architecture they had about the time of Henry VIII. several wonderful indications of Italian taste. Henry began it by bringing over here Torrigiano to execute the monuments of his father and mother in Westminster Abbey. The work, though wholly alien to Gothic architecture, was in itself most beautiful. About the same time in King's College Chapel, Cambridge, he employed the same architect to produce a screen upon which were his initials and those of Anne Boleyn. A little earlier he employed the

same Italian architect to make the royal pew at St. George's Chapel, Windsor, and on that were the initials of Catherine of Arragon. They had reason to know that some of the property in that parish belonged to Catherine of Arragon, and also that in the year 1528, a certain George Wickham left money for renovating the chantry chapel at the end of the north aisle, and there they found the beautiful remains of Italian work, as early, nearly, as that of Torrigiano of Westminster, and as early as that of King's College, Cambridge, and that of the royal pew at Windsor. Having those remarkable specimens of Italian architecture, he thought they might set themselves down as barbarians if they let those fragments be thrown into the fire, as he was ashamed to say a parishioner of Warmington had said they deserved to be.

## THE HAMPSHIRE BANKING COMPANY'S NEW BUILDINGS IN THE CITY.

A new block of buildings which has just been erected in the City for the Hampshire Banking Company, whose head establishment has hitherto been at Southampton, was last week opened for business. The new premises, which are situated at the corner of Threadneedle-street and Bishopsgate, have three distinct elevations, with an aggregate frontage of 150 ft. Up to the first-floor level the building is in Portland stone rusticated, whilst the upper portions are in Box-ground stone. The elevation at the angle of Threadneedle-street and Bishopsgate, facing eastwards, is circular in form, and, in addition to the ground-floor contains two upper stories. The façade is of an ornamental character, with elaborate carving, the entrance to the banking-house being in the centre. The ground-floor windows are large and bold, having arched heads, with massive sculptured heads for key-stones; and between the windows are circular fluted columns, with Corinthian capitals, carried up to the upper cornice of the elevation. The first and second floor windows have segment and pediment heads, with heads for key-stones, and a profusion of carving, and the elevation is surmounted by a bold cornice. The ground-floor of the Threadneedle-street elevation and also that in Bishopsgate, are uniform with that already described, and at the north-west corner of the Threadneedle-street frontage there is a separate entrance to the upper part of the building, with a stone staircase 11 ft. in width. In the upper portion of this elevation there are fluted pilasters between each window. The Bishopsgate-street frontage, in addition to the two stories above the ground-floor, contains pediment dormers, with a balustrade. The whole of the carved and sculptured work on the several frontages has been executed by Mr. Bromfield.

The entire ground-floor is intended to be devoted to the banking purposes of the establishment. The banking-house is about 60 ft. square, and 16 ft. in height. The floor is laid with Minton's encaustic tiles, and the walls and ceiling are artistically decorated. All the fittings and furniture are in polished oak. In addition to the banking-house there are the manager's private rooms and several offices. The building contains a large and spacious basement, and in the latter the strong rooms have been constructed. These are two in number,—one for the deposit of cash, 8 ft. square, and the other, which is intended for books and deeds, being 22 ft. by 16 ft. and 9 ft. in height. The walls of the strong rooms are faced with iron plates, and each is secured by massive doors and ventilating gates, the former of very strong construction of steel between iron, and lined with double fire-resisting chambers 3½ in. in thickness, and secured by three locks. These, along with the massive iron strong rooms, have been supplied by Milner's Safe Company, of Liverpool and London. In connexion with the strong rooms there is a lift for conveying the books, papers, and cash, to and from the banking-house. The whole of the floors of the building are filled in with concrete. It is intended to let portions of the upper part of the building for general business purposes.

The architect is Mr. H. Green, and the contractor, Mr. Shepherd, Mr. King having acted as clerk of works. The premises have cost upwards of 40,000*l*.

**The American Institute of Architects.**—The American Institute has held its tenth annual Convention, in Philadelphia. We will give some particulars of the proceedings in our next, space failing us in our present issue.

## GLASGOW INSTITUTE OF ARCHITECTS.

The above Institute held its ninth annual general meeting on the 18th ult., at the Office, 157, St. Vincent-street. Mr. John Baird, I.A., president, was in the chair, and the meeting was well attended. Mr. Wm. Moffatt, architect, of Hamilton, having been admitted a member, the secretary, Mr. Wm. MacLean, submitted the annual report, and Mr. James Sellars, jun., treasurer, the statement of accounts, and both documents were unanimously adopted. The following local architects were then elected members of the council for the ensuing year:—Messrs. Campbell Douglas, John Gordon, David Thomson, John Honeyman, John Burnet, Wm. Leiper, Hugh Barclay, Wm. Forrest-Salmon, Alex. Petrie, and J. L. Cowan. At a previous meeting it was mentioned that the Royal Institute of British Architects submitted to the consideration of the Glasgow Institute a copy of the proposed general building regulations of the Local Government Board, and the Council now presented their report on the subject. It was recommended, among other matters, that the Institute should use its best endeavours to impress upon the various municipal bodies in Scotland the importance of the subject indicated, and to urge them to united action in obtaining a good Building Act, suitable for the whole kingdom, there being many obvious advantages in such a course, besides its economy. At a subsequent meeting of the newly-elected Council, Mr. John Burnet was elected president for the ensuing year, and Mr. John Honeyman vice-president. The names of the secretary and treasurer remain as before.

## RESTORATIONS AT ROWLAND HILL'S CHAPEL.

It was generally understood that the new edifice at the corner of Westminster Bridge-road and Kennington-road, called Christ Church, which has just been built and opened for the services of the Rev. Newman Hall, was erected in anticipation of the old octagonal building in Blackfriars-road, known as Surrey Chapel (Rowland Hill's), being taken down. It now appears, however, that this well-known historical structure will in all probability remain undisturbed. The remaining portion of the lease, which has about six years to run, has been transferred by the trustees to the Primitive Methodist body, who have obtained possession of the edifice, and we understand that negotiations are now in progress under which it is very likely that the lease will be renewed, and the building preserved. It is at present undergoing restorations, both externally and internally. The contractor for the work is Mr. W. Hobern, of New Kent-road.

The remains of Rowland Hill are buried in a vault in front of the pulpit, and it is stated that the authorities of the new edifice in Westminster Bridge-road, which is designated as a "perpetuation of Surrey Chapel," contemplate the removal of the distinguished preacher's remains, with the view of having them re-interred in some public cemetery, where a monument is to be erected.

## THE NATIONAL SAFE DEPOSIT COMPANY'S BUILDINGS.

It appears from the proceedings at the meeting of the shareholders of the National Safe Deposit Company, held last week, that the business of the company has not so far answered the expectations of the promoters, and that the returns upon the large outlay incurred on the building are disappointing. The report stated that owing to the unprecedented depression in commercial business since the company commenced operations, there had been little demand for new offices in the City, and that the greater part of the superstructure of the company's building, on the rents for which the directors relied for the funds necessary to pay ground-rent and other expenses, had remained unoccupied to the present time, but that during the last few months the whole of the ground-floor had been let to the Bank of New Zealand, and portions of the upper floors had also been let on terms which would produce an annual income of 4,500*l*., exclusive of the revenue derived from the safes and other sources, amounting to 3,000*l*. a year. It added that the objects of the company were still very imperfectly known or understood by the public. The chairman, in the course of his remarks, said that when the company was first constituted the directors anticipated a far greater measure of success than that which they had met with, for they had never expected that their premises would have remained so long unlet. In order to complete the building 100,000*l*. in debentures at 6 per cent. had been issued as a first charge upon the building, and although they had now been opened a year the income still remained far short of the expenses. A shareholder complained that the expenditure upon the building had been unnecessarily extravagant, as one instance of which he mentioned that the vaults for the deposit of valuables had been made even more secure than those of any bank. We are obliged to agree with the aforesaid shareholder, although we should have taken another point for our illustration. A strong simple building in a less costly thoroughfare might have been made a success.

## ROYAL INSTITUTE OF BRITISH ARCHITECTS.

The first general meeting of the new session will be held on Monday evening, the 6th of November, when the President, Mr. Charles Barry, F.S.A., will deliver his opening address. The following papers will be read during the present session:—

*Nov.* 20.—"The Influence of Business Requirements upon Street Architecture." By Samuel Knight, Associate.

*Dec.* 4.—A Notice of the Recent Travels of Lieut.-Col. Playfair, H.M. Consul in Algeria and Tunis, illustrated by Bruce's original Drawings." By Professor Donaldson, Past President.

*Dec.* 4.—A Description of the "Metroscope" (an Instrument for Measuring the Height of inaccessible Buildings). By Thomas N. Laslett.

*Dec.* 18.—"On the Internal Fittings of Wren's City Churches." By E. B. Ferrey, Associate.

*Jan.* 8 (1877).—"On Sanitary and Practical Appliances calculated to increase the Comfort of Dwellings." By John Lanyon, Fellow.

*Jan.* 22.—"On the Optical Refinements of Greek Architecture." By F. C. Penrose, M.A., Fellow.

*Feb.* 5.—"On the Ecclesiastical Architecture of Scotland." By R. Anderson, Fellow.

*Feb.* 19.—"Description of the Manchester Town Hall." By A. Waterhouse, Fellow.

*March* 19.—"The Benedictine Abbey of St. Mary, Sherborne, with Notes on the Restoration of its Church." By R. H. Carpenter, Fellow.

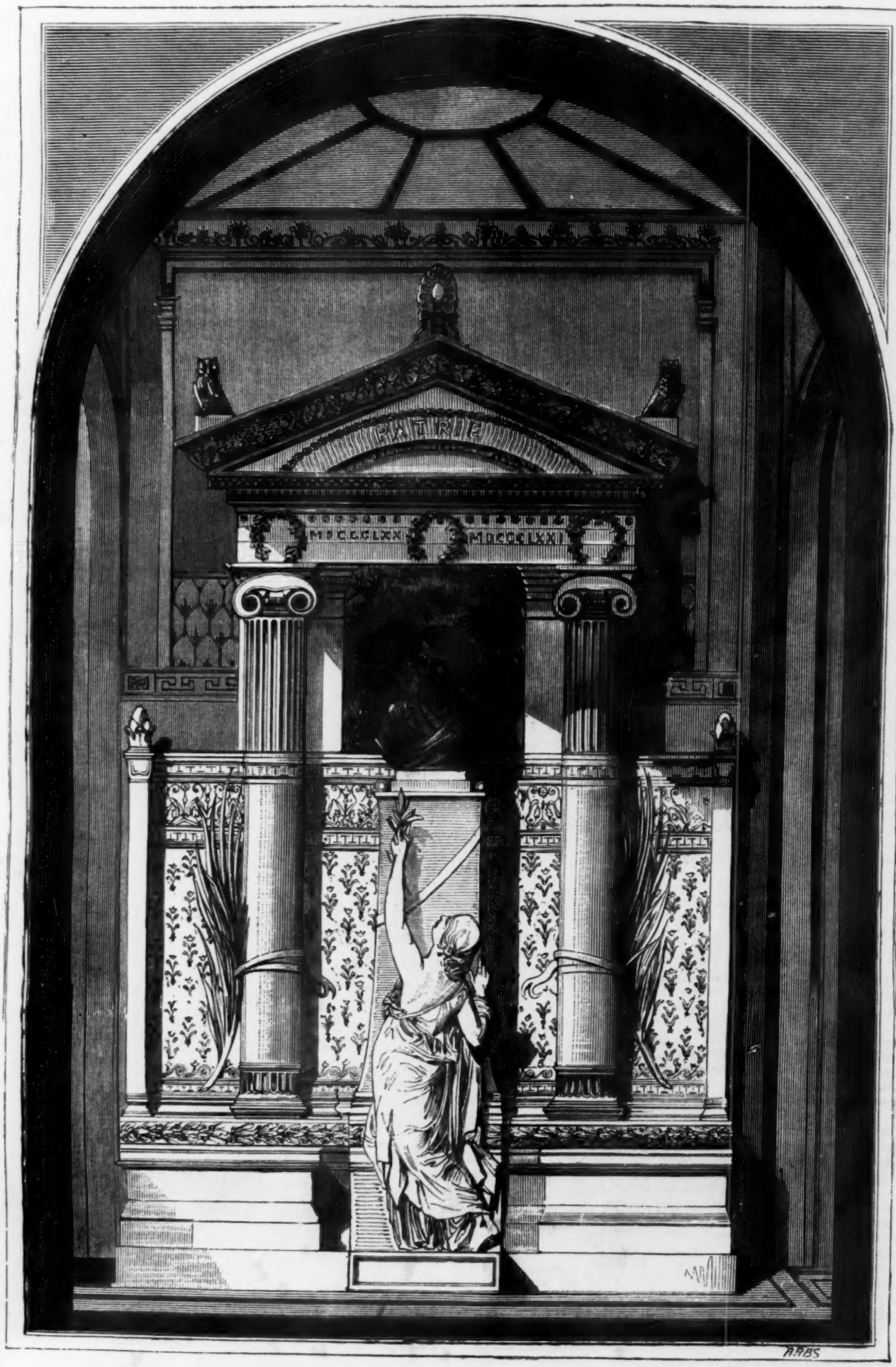
*May* 28.—"On London Improvements,—Past suggestions and future Possibilities." By H. H. Statham, Associate."

## THE MONUMENT TO HENRI REGNAULT, PAINTER.

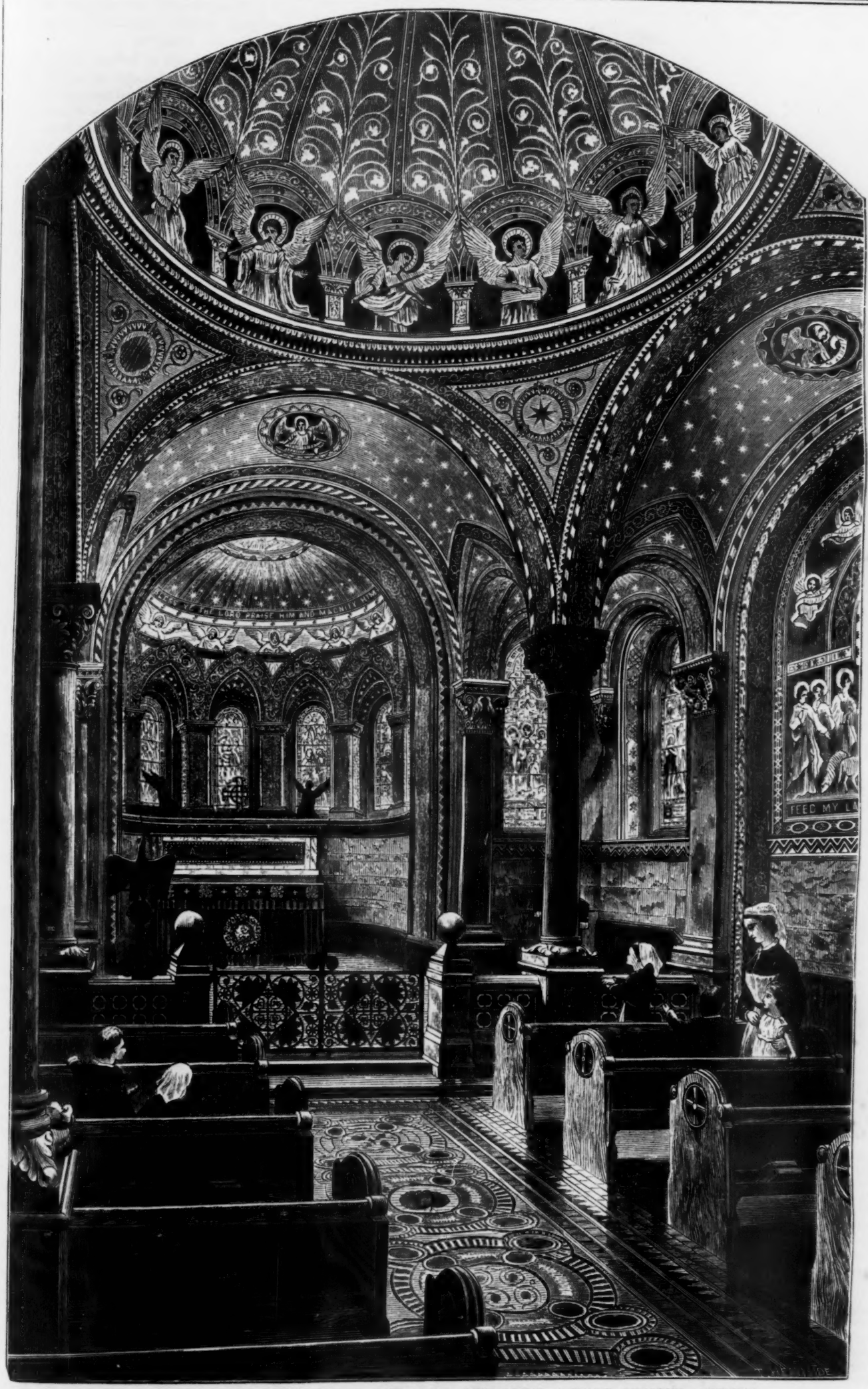
No death, the result of the late Franco-German war, has been more lamented than that of Henri Regnault. Leaving the East, where he was pursuing his art, he at once returned when Paris was menaced, and took his part in the defence. More heroic or less prudent than his companions, after the momentous battle of January 21st, 1871, he hesitated to quit the scene of the disaster, and was killed by one of the last shots fired by the enemy. As a man and as an artist, he has been loudly wept. No wonder, then, that his country has raised a monument to his memory. It was inaugurated quite recently, and we now give a view of it. It is the tradition of the *École des Beaux Arts* that when one of its pupils claims a monument, a pupil of the same year is charged with the design of it. Following this out, M. Pascal, assisted by M. Coquart, the architect in ordinary of the school, has produced the work we illustrate, a work which is not wanting in originality and beauty. Marble and gilding aid in giving a richer effect than can be conveyed by black and white. The bust, of bronze, was executed by M. Degeorge, also one of Regnault's comrades, and the ideal figure *La Jeunesse*, which raises the golden laurel towards the bust of the departed artist, is the charming work of M. Chapu.

In connexion with the subject, it may be mentioned that at the Crystal Palace Concert of Saturday, the 21st ult., there was played a "Marche Héroïque," composed in memory of Regnault, by M. Saint-Saëns, organist of the Madeleine, at Paris; so that the deceased painter has not been without special homage from three sections of the artist community.

**Stonyhurst College.**—This Roman Catholic seminary, which was founded by the Jesuits in 1840, is now receiving extensive additions in an enlargement of the buildings behind the church. For this purpose a large portion of the land hitherto used as a playground will be required. The contractor for the excavations is Mr. Bradwell, of Bath, who has about 200 men at work.




THE MONUMENT OF HENRI REGNAULT, PAINTER, PARIS.




THE CHAPEL OF THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND STREET.

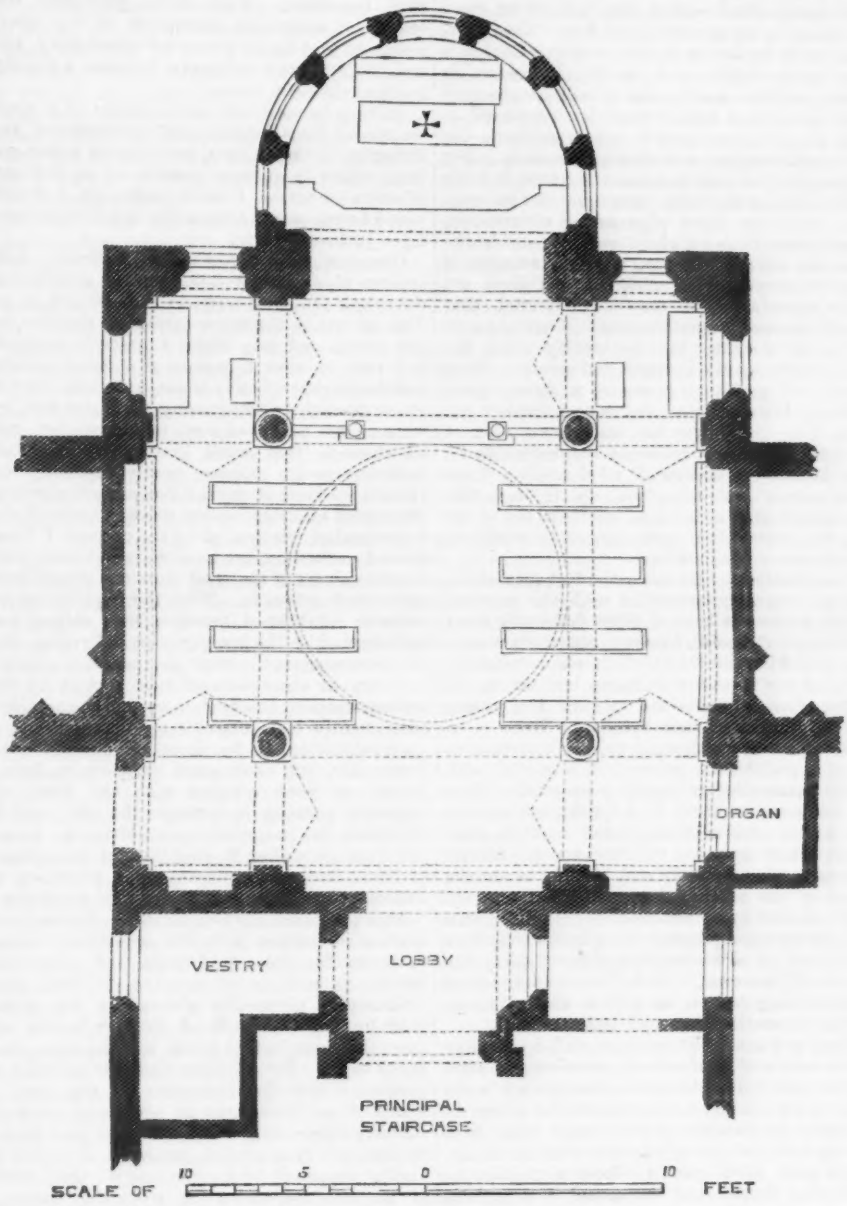
PROFESSOR EDWARD BARRY, R.A., ARCHITECT.

## THE CHAPEL OF THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND STREET.

The new hospital in Great Ormond-street, as designed by Mr. Edward Barry, R.A., has already been illustrated in our pages. A portion of it is now complete; but the whole design cannot be carried out until further and sufficient funds are forthcoming. In the central block, towards Powis-place, which is finished, and has recently been opened, the chapel is a conspicuous feature. It is placed immediately opposite the main entrance, and is entered through the principal staircase. The plan is rectangular, being about 24 ft. square, domed, and with an apse in addition to these dimensions. The apse is semicircular on plan, and forms a sacrarium or chancel. The main body of the chapel is subdivided by the introduction of four columns, from which spring arches, the corners being occupied with small domes, or rather groined ceilings. A dome of greater height occupies the central part of the chapel. The walls are lined with alabaster on marble plinths. The columns are of polished red Devonshire marble, on alabaster bases, and green marble pedestals. The capitals, which are gilt, are richly carved, and in common with the rest of the chapel they display a Byzantine type of architecture. The reredos is of alabaster and marble, and the paving about the altar is of marble in small pieces, recalling in design some of the pavements of St. Mark's, Venice. The sacrarium is divided from the body of the chapel by a low screen. This is constructed of alabaster in panels. Each panel contains a brass rose, and the plinth and capping of the screen are of polished marble. In the centre are gates of solid brass, elaborately modelled. The centre aisle or passage is paved with pottery mosaics, in bold and effective patterns. All the windows are filled with stained glass. Those in the apse represent the birth of Our Lord, and the various events of his childhood, as the adoration of the Magi, the presentation in the Temple, the flight into Egypt, and the youthful Saviour teaching in the Temple. The other windows in the body of the chapel are devoted to the representation of Old and New Testament saints. We find here Samuel, Timothy, and little children in the Temple, also St. John the Baptist. The walls are covered with pictures. These have reference to childhood as depicted in the Bible, and their subjects are indicated by the texts written beneath them. "Suffer little children to come unto me," "Feed my lambs," &c. In the centre of the ceiling of the apse there is a medallion containing the "Spotless Lamb," bearing a cross, and the domed ceiling over the body of the chapel displays a pelican feeding its young. The whole of the painting, as well as the stained glass, is by Messrs. Clayton & Bell.

The prayers are said and sermons preached from desks placed one on each side, inside the sacrarium, and there is also a brass eagle for the lessons fixed on the low screen before referred to. An organ has been constructed in a recess in the angle of the chapel at the right of the entrance doorway. The ceiling is richly decorated with gilding and colour, and the apse is ornamented with angels on a gold ground, displaying the characteristic graces of children, such as Faith, Truth, Patience, Purity, Obedience, Charity, Honour, and Hope. The seats and all the wooden fittings are ebonised black, and polished.

From the foregoing description our readers will have gathered that, although the dimensions of the chapel are small, no expense has been spared in its construction and decoration. It is right, therefore, to add that this work has not been carried out at the cost of the hospital. No portion of the funds of the latter have been expended upon it, and every charge connected with the work (even to the cost of the altar-cloth, hassocks, and books) has been defrayed by a relative of the architect, Mr. William Henry Barry, who has presented this elaborate offering to the hospital, an unobtrusive inscription over the door stating that the work has been done "to the glory of God and in loving memory" of a dearly-loved wife, cut off in the prime of life, and devotedly attached to little children. The chapel has thus been a labour of love, and nothing has been spared for its successful realisation. It now forms an essential part of the Hospital for Sick Children, to which we may wish every success in its endeavours to minister to the afflicted in mind or body, among the poor and suffering classes, for which this and kindred institutions have been founded.




THE CHAPEL OF THE HOSPITAL FOR SICK CHILDREN.—*Plan.*

## ON THE PNEUMATICS OF THE HOUSE-DRAIN AND A SIMPLE FORM OF TRAP.*

As there are evidences visible to those who are concerned in sanitary pursuits, that the general public are becoming more alive to the value and importance of personal attention to domestic sanitary arrangements, I am induced to refer briefly to a simple device—if so small a matter is worth notice—for preventing the ingress of sewage emanations into the interior of the house, through the most usual, but far from only, medium, the drains. It at once acts as a ventilator to the sewer or cesspit and lower parts of drain, also effectually ventilating the house-drains, soil-pipes, sinks, closets, bath, or other pipes in communication with the house-drainage system, by the agency of a continuous circulating column of air fresh from the external atmosphere, sweeping through the pipes, if they are maintained open at the upper extremities to the outer air.

It is a good many years ago since I first had occasion to devise some scheme for excluding sewer exhalations from the house atmosphere, and I have generally found that the plan about to be referred to has successfully accomplished the object in view.

In the absence of provision for sewer ventilation, it is now tolerably well recognised that sewer air does more or less find an entrance into any building with which the drainage scheme is connected. Such every-day appliances as bell-traps, D-traps, syphons, &c., with which 99 per cent. of houses are furnished having any claims to drainage at all, readily permit of the discharge of gaseous sewage into the various offices of the building they are attached to, either by defective joints and materials, or simply forcing the water-seal, and blowing into the interior; and, again, by the subtler and more frequent mode of *conduction* through the water.

In cases where the sewer and drains are ventilated by rain-water down-spouts, or by the soil and other pipes conveying fluid refuse, by apertures at the upper ends, it is not so widely known that injurious results often follow. Nay, amongst jobbing builders and their staff, to whom is generally left the care of the house, it is a standing article of belief that with a sewer ventilating into the street, and the drain by an upright pipe, mal-odours cannot exist in a house from such source.

A considerable improvement is to ventilate the sewer by one channel, then outside the house wall to introduce a syphon trap, so as to obstruct aërial connexion between the house and sewer, leaving, as before, the upper orifices of the house pipes open to the outer air. Even this course is not always satisfactory; for air currents within the pipes are often downwards, and the vaporous emissions from foul pipes, and that which passes the syphon by *conduction*, are blown into the house.

On this subject the general opinion would

* By Mr. Richard Weaver, C.E. Contributed to the Social Science Congress, Liverpool; but, in absence of writer, not read.

seem to be that, given a tube open at its summit discharging effete matter from a building, there is necessarily an upward aërial flow. This, however, is by no means so universally. Charge a pipe with visible and nearly imponderable matter, such as smoke, and it will be observed that the current will as likely be downward as ascendant. Sometimes it is intermittent, the puffs oscillating up and down alternately. Not unfrequently it may be noted the course is fairly uniform in one direction, then again in the opposite: with the same pipe under observation, these alternations of aërial currents inside the tube are witnessed; also, when a number of pipes connected with different buildings are under experiment, it may be observed that equally confusing results ensue. When the conditions of working are apparently alike, the currents are again dissimilar and erratic. With a wind of moderate pressure, a strong blast descends the ventilator, and blows through not alone defective joints, but water-seals also. I have known houses rendered uninhabitable by this descendant motion of wind rattling down water-spouts and soil-pipes, up through the closet-pans and sink-traps, sucking sewer air from the lower pipes, and carried forward into the interior of the dwelling.

Now, observation has led to the fact that where a proper opening connected with the external air exists near the base of pipes delivering from the house,—at a point, however, above the water-trap, placed beyond the building, which certainly no house ought to be without, but which, in reality, few possess,—no tainted air passes into the interior of that building. There is at all times a current flowing in one direction or the other, which, in calm cold weather, with steady barometer, is barely perceptible. In a hot, calm season there is a quickened upward flow, while, with a strong wind, a sharp blast passes either upwards or downwards. Should the breeze blow squarely and steadily across the orifice of the ascendant pipe, the blast is upwards, caused by a reduction of pressure within the pipe by rapid passage of a gaseous body over the mouth, as is witnessed in the toy spray-disperser. If, however, wind deflections are created by projecting bodies, as gables and chimney-stacks, the motion of the air is downwards.

These and other observations, culled years ago in the course of professional practice as a sanitary adviser, led me to provide an opening in the lower exit drain-pipes, just outside the house, to facilitate the passage of air through them, thus cutting off aërial communication with the sewer, except such sewer-gas as effects a passage by conduction through the water-seal of a syphon, by means of a trap at a lower point, and reducing the stagnant foul air of the pipes within the house to approximately the same quality as the external atmosphere. This result I always arranged by local materials, and obtained the object in various ways, according to the position and circumstances of the particular house or other building to be treated. In one the end would be achieved by inserting a small inverted syphon tapped into the soil or other down-pipe externally fixed, with its mouth uppermost, into which a current of air passed. In another the desired result was attained by delivering the sewage over a D or other trap, with the grate removed to the ground-line to carry away surface water, and provide for the passage of fresh air into the house-pipes. An effective mode is by removing the upper half of a sewer or drain pipe, building up the sides vertically to the ground and fitting a grid, at a lower point fixing a syphon or dished channel of cement, with a lip dipping a few inches into the water.

Some three or four years since several of these methods were advised by me at her Majesty's Convict Prison, at Chatham, for excluding sewer gas from the various inhabited buildings there. Owing to peculiarities of site and tidal influences, the sewer emissions in that place were voluminous in quantity and strong of scent; but the means devised of cutting off direct contact with the sewers and the circulatory system of ventilating drains by introducing air at the lower points, above the outer traps, finally prevented contamination to the internal air of the rooms.

Extemporaneous ways of the sorts here sketched are equally sure, if carried out under skilled direction, in ventilating house-drains and sewers, when the vertical pipes are open above, and are tolerably certain in severing gaseous connexion between the sewer and house through the drains. There is, however, a numerous class of persons, very worthy folks no doubt, and possibly actuated by honest intentions, but whose actions I fear are often more obstructive than beneficial. With these gentlemen the effects of makeshift expedients of the kinds described may be the reverse of satisfactory, and constitute all the difference between a healthy and an unhealthy house.

Having in view the requirements of a large section of householders, and experiencing the difficulty of obtaining a satisfactory sewer-gas trap, which is at once economical in cost and effective in action, I have registered a design which in one piece secures the combined advantages just referred to.

Conceive, if you please, an ordinary 6-in. syphon pipe, with a 3-in. junction attached at the spigot end, with a square slice about 4 in. by 4 in. cut out of the upper surface of the pipe, at the socket end, into which a grate is dropped, and that is what I present as a cheap, simple, and thoroughly effective house-drain trap. Sewer gas is prevented from passing the water seal by force as it is conveyed away to a convenient outlet through the small junction. Any foul matters,—partly gaseous, partly vapours,—the volatile products of organic decomposition within the sewers effecting a silent passage through the water-seal of the syphon by the process I have termed *conduction*, are immediately diluted with a large volume of air, fresh from the atmosphere and swept outwards. With the equilibrium of pressure established between each side of the trap secured by the junction-pipe delivering the aërial sewage into the outer air, there is a reduced tendency to absorption of such matter by the surface-water of the syphon on the sewer side; consequently less mephitic air passes the trap upon saturation, to be given off again on the house side, but such small quantity, as before stated, at once mingles with the fresh air copiously pouring in through the grid, and is ultimately discharged into the outside air above the house-top, after flowing through the system of house-drains and internal pipes, which are so maintained in a comparatively sweet condition.

I am professionally able to affirm, from an intimate acquaintance with the condition of house drainage in the metropolis and provincial towns, as well as of country districts, from information personally gleaned on the spots, that by far the bulk of English homes are less salubrious, indeed much less so, than they ought to be. But I believe that the exercise of judgment and discrimination on the part of heads of establishments in occasional amateur sanitary inspection, or by the safer and really economical system, the principle of which is highly approved by Sir William W. Gull, bart., of periodic inspection by a skilful sanitary engineer, will help to improve materially the salubrity and comfort of homesteads.

A large majority of houses are unhealthy through sewer exhalations penetrating into them, but most of them may be improved by using the inexpensive contrivance I have submitted to you. Messrs. Stiff, of the Lambeth Potteries, I think, will undertake the manufacture of the apparatus, and, from what I hear, those gentlemen will be in a position to supply it for a few shillings, at a charge very little above the price of a common syphon-pipe, which is really so reasonable as to be within the reach of every cottager.

## ENGINEERING WORKS IN PROGRESS.

### INSTITUTION OF ENGINEERS AND SHIPBUILDERS IN SCOTLAND.

At the opening meeting (October 24th) Mr. R. Bruce Bell, C.E., as president, delivered an introductory address. Towards the close of it he said:—It has been usual in the opening addresses of our presidents to give a summary review of the various engineering works of consequence in course of construction throughout the country; but this field has been so well gone over by my recent predecessors, and there is so little to add regarding any recent works of very great magnitude in civil engineering, that I will not touch upon this ground. I may notice, however, that we are at last to have in Scotland one if not two respectable railway stations, viz., that of the Union Railway in St. Enoch-square in Glasgow, and the Caledonian in Gordon-street, crossing the Clyde, which is to be approached by a viaduct.

In allusion to this, I cannot help remarking upon the unsightly structures which engineers seem universally to adopt when crossing our large rivers with railway viaducts of iron. Why this should be the case when iron is used seems strange, because when stone is adopted as the material we have often very fine examples of viaducts for railways; but on the Thames and the Clyde, although we have fine roadway bridges, both of stone and iron, the railway bridges are as artistic specimens simply execrable, and in connexion with this railway station at Gordon-street I am sorry to find that another eye-sore is about to be inflicted on Glasgow, whereby a great opportunity has been lost, as by a proper arrangement of the same amount of iron, and with the height and width of the span at command, a most artistic structure might have been produced.

The North British Railway is also engaged upon a work of great magnitude in the construction of the Tay Bridge by Mr. Bouch, otherwise in railway work in Scotland there is not much calling for any special remarks. In sea works we have not done much of late years in Scotland of any great importance, although in this branch of engineering I have to notice the advance that has been made of late years in the use of concrete as a building material.

In works exposed to the fury of the ocean the great object has been to obtain blocks of stone of such size as to be placed beyond the possibility of being lifted by the force of the sea. The old mode of building by stones obtained from the quarry, clamped and fastened together, involved great care and cost in workmanship, and as blocks of five, ten, and even twenty tons would not of themselves by their own weight resist the upheaval of the waves, it was hardly possible to get stones quarried of sufficient size. This is now, however, effected by the adoption of artificial blocks of concrete. The first engineer who adopted this on a very large scale was Mr. Bindon Stoney, of Dublin, who built, and lifted, and set in place, blocks of 350 tons weight in the construction of the river-wall in Dublin Bay. The machinery by which this was effected was of a most elaborate and costly character, nevertheless the work was executed at a moderate cost. The situation of this work, however, was in comparatively smooth water.

In the Tyne piers, with an exposure to the open sea of the German Ocean, Mr. Messent is laying blocks of 40 to 60 tons, and Mr. Dyce Cay has also been executing some heavy work in Aberdeen, exposed to very heavy seas; but a work at present in progress subject to the greatest exposure is Sir John Coode's work at Jersey Harbour, exposed to a sea and tideway unsurpassed anywhere in its destructive character. Mr. Imrie Bell, the engineer, who is constructing this work, is now forming blocks of 100 tons weight, which are carried out to sea suspended under the bottom of a large welled barge and set in their places, the bottom foundation having been previously prepared with concrete in bags containing 10 to 20 tons in each, lowered through the wells of barges.

Another mode of using concrete is by setting it in a mass *in situ*, thus making the pier or wall a monolith, although it is not many years since this mode of using concrete, or of setting concrete in any form under water, was looked upon by engineers with distrust. Its first introduction for habour works on a large scale placed *in situ* under water was in the foundations of the sea-walls of the Albert Harbour at Greenock, which were built without cofferdams by Mr. Miller and myself in 1861, and at that time we could hardly get any engineer to support our view as to its being a reliable mode of building. Of late years, however, concrete has become a universal system of building sea works where cost and time are matters of importance.

The great engineering problem for Glasgow is at present the means of getting quit of the sewage. This has been grappled with by Sir John Hawkshaw as Her Majesty's Commissioner, and whose report is before the public; but it appears to be a question whether he has exhausted the subject, or arrived at any such definite conclusion as can lead to active measures being taken, or has on the contrary left the matter very much where it stood before. One provision, however, which he has suggested will, if properly acted upon, pave the way for definite action, which is the constitution of a Board of "Sanitary Commissioners of the Clyde." All that can be said at present, however, regarding the prevention of the pollution of the Clyde, is that it is still a problem for the future.

Having, what with Bateman, Bazalgette, and Hawkshaw, so far exhausted the talent of London in purely engineering expedients, the ground may be now free for the proposal of some more

scientific combination of chemistry and engineering.

I do not intend to refer further to engineering works in the country; but will, in connexion with what I have previously referred to, take some notice of what is doing in America, where I have had some opportunity lately of seeing what our neighbours are about; and I can only say that, whatever pride we may take in our great undertakings here, we must be prepared to recognise that American engineers have in some things surpassed us.

I was last year appointed upon a committee, along with an American and a Canadian engineer, General Newton, of the United States army, and lieut.-colonel of the corps of military engineers, and Mr. Sandford Fleming, engineer-in-chief of the Intercolonial, and of the Canadian and Pacific Railways, in an examination of one of the largest rivers in North America, with the view of carrying out an improvement of the harbour of Montreal. General Newton afforded me the opportunity, whilst in New York, of inspecting the works of one of the most interesting undertakings of the present day connected with the improvement of river navigation, — the removal of Hallet's Point Reef forming the threshold of Hell-gate, which has long been the terror of navigators and underwriters, but which was, on the 24th of September, reduced to a thing of the past. As is well known, there are two entrances to the sea from New York, the one by Sandy Hook and the other by Long Island Sound, through the East River. The East River Channel is the shortest and most direct route to the north, and has besides a great amount of local navigation, although it is a dangerous channel, and has been the scene of much shipwreck and loss of life and property. This so-called East River is not properly a river, but a narrow strait, separating Manhattan Island, upon which New York is built, and the mainland beyond this, from Long Island. The strait, after passing Hell-gate and Throg's-neck, widens out into the Long Island Sound, and enters the sea at a distance of 130 miles further north than the Sandy Hook entrance. We have thus two bays entering from the ocean at a distance of 130 miles apart, and connected by the East River channel. The tide in the bay of New York rises to its full height at the entrance of the East River nearly three hours earlier than it does at the other end of the strait, at its entrance from Long Island Sound; and although the rise and fall of tide is not more than 6 ft. in New York Bay, and 9 ft. in Long Island Sound, yet as this channel is only eighteen miles in length, this head is sufficient to cause a very rapid current to flow through the strait; and where obstructions and contractions occur it is turned in fact into rapids and whirlpools. The worst of these obstructions occurred opposite Hallet's Reef, where the strait takes a rapid turn, and from this point a reef of rock jutted out into the channel, with only 9 ft. to 12 ft. of water upon it, the stream rushing and seething past it at a rate of from six to ten miles an hour, according to the direction of the wind and tides, and bearing direct upon it. The strait, besides, is at this point divided into separate channels by islands and submerged rocks. This is the portion called Hell-gate, and it is certainly well named, as it is something appalling to see vessels passing down apparently helpless, a sight only equalled by the passage of steam-vessels down the rapids of the Canadian rivers. Ideas regarding the improvement of this channel have occupied the thoughts of the New York people for many years, and a considerable amount of money was privately subscribed and expended in surface-blasting with nitro-glycerine, about thirty tons of explosive materials having been employed in clearing off the prominent rocks and projections; but no material improvement was effected until the Government undertook the work in 1866, and placed General Newton in charge, who since that time has succeeded in removing many of the prominent rocks by drilling from scows specially arranged for the purpose, and blasting with charges of nitro-glycerine; but the Hallet's Point Reef was a matter which could not be acted upon by any such ordinary means.

The rock itself being solid gneiss, the extent of the reef nearly four acres, and the constant change in the current in rapidity, force, and direction, during the various changes in the tide,—besides the impossibility of carrying on operations in a channel where vessels navigating have no power of steerage,—rendered it impossible to work in the ordinary way from craft, or erections in the river; and as no diver could descend into such a vortex, it was, therefore, boldly determined to undermine the whole mass and shiver it to pieces in one operation.

Some time prior to this, a large rock of elliptical shape, 195 ft. in length by 105 ft. wide, called the Blossom Rock, had been removed in the Bay of San Francisco, by Colonel Williamson, of the United States corps of engineers, by undermining and blowing it up; and, as far as I am aware, this was the first operation of the kind in subaqueous blasting.

The rock was metamorphic] sandstone, its highest surface being 5 ft. below low water. A shaft was sunk through the rock, a space in its surface being enclosed within a cofferdam, and a telescopic iron shaft sunk down through the rock. The interior was then chambered out by excavation, leaving a thin crust of roof above. Into this chamber was placed about twenty tons of giant powder, enclosed in thirty-eight ale-casks and several old iron tanks, and fired from a boat by means of a galvanic battery. The mass of water displaced was 200 ft. in diameter, and was said to have been thrown up in the air, mixed with the *débris* of the roof of the vault and the shattered shoring timbers, to a height of 300 ft. The effect was completely satisfactory. The cost of the work was 15,000*l*.

The removal of the Blossom Rock was thus effected by chambering out a vault and blowing off the roof by sheer force of explosion. But in the case of Hallet's Reef, owing to its vast size and peculiar position, this arrangement could not have been carried out.

The reef, which is triangular in shape, extends outwards from a point of land at a sudden turn in the river to a distance of above 400 ft. where it reaches the 32 ft. water-line: all within this required to be removed. The work was commenced in 1869 by the formation of a cofferdam in front of the point on the shore, and the face of the rock squared down inside of this to form the shore line of deep water. The space thus formed inside of the cofferdam is 117 ft. long and 62 ft. wide, and this formed the main shaft, the bottom of which was 33 ft. below low-water line. From this shaft ten main headings were driven into the reef, radiating out from the shaft as a centre; these were crossed by a series of lines of cross galleries; from these again intermediate headings and cross galleries were driven until the whole space was mined out like a coal-pit, entirely resting on pillars, 173 in number. The headings and galleries were from 20 ft. to 22 ft. in height, leaving a roof from 7 ft. to 10 ft. thick, above which rushed and roared the waters of Hell-gate. The aggregate length of tunnel and galleries was 7,425 ft., and the quantity of material excavated and removed 50,000 cubic yards, to effect which nearly forty miles of holes were drilled, principally by machines driven by compressed air, and about 30 tons of nitro-glycerine and other explosives used in 75,000 blasts. After the whole of the reef had thus been completely honeycombed the pillars and roof were bored full of holes to an average depth of 10 ft. The number of holes were about 5,000 in all, charged with dynamite rend-rock and giant powder, the quantity of explosives used in charging being about 26 tons. In each hole was placed an explosive cartridge and an electric wire; these wires were all collected and formed into two cables, and led direct to the batteries. When the connexions were completed water was allowed to flow into the mine, which effected all the tamping required.

The charge was fired on the 24th of September last, by General Newton's daughter, 2½ years of age, by means of a Morse telegraph key.

The upheaval of water, as anticipated by General Newton, was comparatively slight, although in reality a vast affair, as the mass of water over the whole surface of the reef was said to have been raised to a height of 60 ft., with rocks of large dimensions spinning on its surface like tops.

The difference of the nature of this blast from that of the Blossom Rock was that in the latter case the roof of the vault was actually blown up by an actual explosion in the Guy Fawkes style, but in the case of Hell-gate it was simply the smashing up of the pillars and roofs themselves, causing a complete disintegration of the rock, no more power being expended than what was necessary for this purpose, and from the account of the blast this appears to have been a complete success. It reflects the highest credit upon General Newton and those under him by whom the works were conducted, that with all the manipulation of such a vast amount of explosive material no accidents have occurred, with the exception of five or six cases which resulted from the carelessness of the men themselves.

This is the first work of the kind which has ever been executed, and certainly never before, either above or under water, were so many isolated charges spread over such a vast area discharged at one blast. The work reflects the highest credit upon the Government who undertook it, and upon the scientific knowledge and ability of the engineer, who has carried it to such a successful result.

There is still much arduous work to be done before a clearance of Hell-gate can be effected, as a great part of the *débris* has to be cleared out to get the requisite depth of water; for although the pillars and roof now form a crushed mass filling up the excavated vault, yet they occupy in this state probably twice the amount of room which they did as part of a solid rock, and much of this must be removed to get the required depth of water.

Another great work which I had the pleasure of seeing under progress at New York is the Brooklyn Viaduct, spanning the East River, from Manhattan to Brooklyn, in one span of 1,500 ft., for railway and road traffic. The clear headway is 140 ft. from high water to the under side of the roadway, and one may imagine the strength of towers required to carry such a span across at such a height. This is greater than anything of the kind that has ever been attempted in this country, seeing that Telford's Menai Bridge is only 790 ft. span. The widest span of the Britannia railway-bridge, over the same strait, is only 400 ft.; and that these two are the greatest works in bridge-building which have been done in this country. In Canada, also, there is much to interest us both in civil and mechanical engineering.

A great work which has thus been brought to a successful termination, after many years of arduous labour, is the Intercolonial Railway. The intention of the originators of this railway was to connect the maritime provinces with the Canadas, and give an outlet to the trade by access to the Atlantic during the close of the interim navigation by ice. The proposition was mooted by Henry Fairbairn, seven years after the opening of the first passenger-railway in England,—the Stockton and Darlington,—and in 1835 the project was brought by the Canadian before the Imperial Government. After many delays the Government undertook a survey through the heart of what was then the province of New Brunswick, but which became part of the State of Maine in 1842, under the famous, or, rather, infamous, Ashburton Treaty, much to the astonishment of the Yankees themselves. This was effected by the muddling management of the British Government, in first refusing good terms of arrangement offered by the States Government, and then sending out an ignorant English earl, in place of a few practical surveyors, to define and agree upon the boundaries between Canada and the United States. The colonists had then to commence afresh, and did so by each province setting to work, independent of the Home Government, and the result was the construction by the Canadian provinces of the Grand Trunk Railway, from Sarnia, at the foot of Lake Huron, to Rivière du Loup, 120 miles east from Quebec,—780 miles in all,—and by Nova Scotia and New Brunswick, of the railways from Halifax to Truro, 60 miles in length; and St. John's to Shediac, 108 miles. So stood matters in 1862.

There was still the long link wanting to connect the provinces through the wilderness, the length of which was increased by an additional 250 miles, by the folly of the Imperial Government giving up the portion of New Brunswick, under the Ashburton treaty.

In 1863 the Imperial Government and the three provinces came to arrangement about this, and mutually proposed Mr. Sandford Fleming as engineer-in-chief, who commenced the surveys in 1864; and by the time these surveys were finished, the provinces were united in one dominion; and the first great work undertaken by the new Government was this important railway, the works of which were commenced in 1869; and their completion this year has brought our colonies of the Canadas for the first time into connexion, overland, with the maritime provinces of New Brunswick and Nova Scotia, which were formerly divided by an almost impassable wilderness, and we now have a continuous line of railway from Halifax and St. John's right through to Sarnia, at the foot of Lake Huron, the western

extremity of central Canada, which, there joining the United States railway, goes right across the continent to San Francisco on the Pacific.

Canada is not, however, content with this mode of access to the Pacific, but is actually now engaged upon a Pacific line, carried entirely through her own territory, to the north of the lakes. The whole of this line has been surveyed by Mr. Sandford Fleming, a great part of it is located for contract, and several long links already constructed.

The canals of Canada are on a grand scale. The Welland Canal connecting Lake Erie with Lake Ontario, and thus overcoming the falls of Niagara, and the canals of the upper St. Lawrence, continuing the navigation past the rapids and unnavigable portion of the river, right into the harbour of Montreal. The locks of these canals have been increased in size from time to time, and are now being reconstructed throughout and made large enough to pass vessels of 270 ft. in length and a draught of 12 ft. of water, from the lakes right on to Montreal and Quebec. The cost of this renewal of works of the Welland and the St. Lawrence canals, and the St. Lawrence river, will not be less than four millions and a half sterling.

So much for this young country, which was only formed into a dominion eight years ago. The mechanical industries of the colony are also taking a high position, and steam-engines and machinery are now manufactured which would do credit to the best factories in the old country itself.

## UNIVERSITY AND TOWN IMPROVEMENTS AT OXFORD.

In accordance with annual custom, *Jackson's Oxford Journal* at the commencement of Michaelmas term gives an account of the more important building improvements and additions that have been executed or projected during the past twelve months. From the long list furnished by our contemporary we give a *resumé* of the most salient items.

At *Christ Church*, the alterations in Tom Quad and elsewhere have been rapidly pushed forward during the year. The old lines of the building are being endeavoured to be re-traced, and for this purpose the terrace has been lowered considerably, with a view at some future time to the erection of cloisters around the quadrangle on the buttresses which have been discovered and made good. About one-half of the ancient Classic parapet, the work of Sir Christopher Wren, has been removed, and a new architectural battlement substituted. A small tower has been erected over "Kilcanon" archway, and the old statue of Wolsey, which was formerly on the opposite side of the quadrangle, has been placed in a more appropriate position near Tom Gate. But a more arduous task yet remains, namely, the bell-tower. The difficulty arises from the great width of the basement line of work left by Wolsey. To build a tower in proper proportion to this basement-line would mar the effect of the present Cathedral tower, which, probably, in the original design was to have been removed. Under the circumstances, therefore, a suitable tower will be constructed over the belfry in fair proportion to the surrounding buildings, and without destroying the old basement-lines. The interior of the old almshouses opposite Tom Gate is being pulled down, and it is intended to convert them into a residence for the treasurer, the Rev. R. G. Faussett. The architects are Messrs. Bodley & Garner. The building formerly used as stables for the Provost of Oriel have been razed to the ground, and the materials sold. This improvement, when completed, will give a much more convenient entrance to King Edward-street. The builders are Messrs. Symm & Co., of St. Giles's.

At *Balliol College* the work of enlargement is nearly completed. The new hall, 90 ft. by 30 ft., is finished, as also are a new buttery, common-room, lecture-room, and laboratory. Four sets of rooms have been erected for Fellows at the east end of the hall, and eight sets for Undergraduates at the west end, and the old hall is being fitted up as a library. A new roof has been put on Fisher's rooms at the west end of the college, and a new facing of white stone is being put on the front in Broad-street, together with new sashes and windows. The cost of the improvements at this college will amount to 30,000*l*. The architect is Mr. A. Waterhouse; the builder is Mr. Horsman, Wolverhampton; and the clerk of the works is Mr. Simmonds.

The work of restoration at *All Souls College Chapel* is now nearly complete. The reredos occupies the whole of the eastern end, and the thirty-five large niches and the eighty-four small ones have been filled in with statues and statuettes, and the work has been executed by Mr. E. Geflowski. Mr. Hill, of Oxford, has done a considerable part of the work of decoration, the bay over the reredos having been painted by him from the designs of Sir G. Scott. The floor of the chapel has been repaved, the stalls have been restored, a new cornice has been substituted, the sedilia and piscina have been restored, and a new altar, composed of a single slab of Devonshire marble, has been provided. The greater part of this work, and that of the reredos, has been carried out by Messrs. Farmer & Brindley, Mr. J. Medland acting as clerk of the works.

The extension at *New College*, which has occupied the past three or four years, is rapidly approaching completion, at least for the present. The new block which has been added to that which was completed for occupation twelve months since, in Holywell-street, provides rooms for twenty Undergraduates, with a Fellow's residence at the west end. The buildings are fronted with Milton and Taynton stone, and the length of the front is 273 ft., with a depth of 33 ft., and a height of 75 ft. to the ridge. There is some carving on both the College and Holywell fronts. Further extensions are contemplated. Messrs. Jackson & Shaw, of London, have carried out the designs, from the plans of Sir G. Scott, and Mr. H. Roome is the clerk of the works.

The addition of new buildings at *Keble College* still progresses, and the Society bids fair to become one of the largest in the University. The chapel was opened on St. Mark's Day last, as reported in our columns at the time.

Various alterations and additions of a minor character have been executed at nearly all the colleges. An organ-gallery has been erected in the ante-chapel of Trinity College, and a new lecture-room has been built from the designs of Mr. E. G. Bruton, architect, having accommodation for a lecturer and twenty-five students.

The Bodleian Library reading-room has been dismantled, and a new floor is being laid, the books having been removed to the Music School, and accommodation provided for readers in another part of the building.

Upon the recommendation of the New Schools Delegacy towards the close of the summer term, Convocation has determined to authorise the curators of the University Chest to obtain contracts and proceed with the execution of Mr. T. G. Jackson's plans for the schools quadrangle, entrance-hall, and other buildings on the site of the old Angel Hotel, in the High-street, power being given to borrow a sum not exceeding 60,000*l*. to defray the cost. Workmen have been employed levelling the ground during the Long Vacation. The buildings will consist of a quadrangle, surrounded on three sides by buildings containing the examination schools, with their offices, and standing back from the High-street, and a building interposed between the schools proper and the High-street, containing a general hall, and two large rooms for the private use of examiners, below which are the offices of the clerk of the schools, and the residence of his subordinate. The building will be two stories in height, and the *vivâ voce* schools placed above and the writing-schools below. The latter will be three in number, two providing accommodation for 200 and one for 150 candidates. The *vivâ voce* schools will be removed from the noise of the streets, and will be quite quiet. The estimated cost of the entire building, including warming and ventilation, is 63,884*l*.

The new University Running-ground, adjoining the Christ Church Cricket-ground on the Iffley-road, is now nearly completed. It will be adorned by a pavilion of the Italian style, of white bricks with red bands. The whole of the arrangements have been entrusted to Mr. Hobdell, of the well-known firm of Messrs. Fisher & Hobdell, builders, &c., of Oxford, and the entire cost of the work will be nearly 2,000*l*.

In the city the principal work has been the drainage, of which we recently published some particulars in the *Builder* (p. 1031, *ante*).

At St. Clement's Church the organ has been removed from the west end of the building to the south side of the chancel, and a stained-glass window will be placed in that portion of the church previously occupied by the organ. At St. Frideswide's Church a new vicarage-house is being erected on the south side, at a cost of 2,500*l*., from designs of Mr. H. G. W. Drinkwater. It is connected with the church by a corridor and parish room, and is built of Gibraltar stone with Bath stone dressings, and the tiles to be used will correspond with those of the church. The church tower will shortly be commenced, and an iron palisading will be placed round the church. A new vestry is being placed adjoining the north transept of St. Philip and St. James's Church, and a similar addition, with an organ-chamber, is being made to Holywell Church.

A new school has been erected in New Inn Hall-street for St. Michael's parish, adjoining Shoe-lane, and the master's house adjoins the street. The architect was Mr. E. G. Bruton.

The new cemetery at Cowley St. John is approaching completion.

## ECCLESIASTICAL DILAPIDATIONS.

### LINCOLN DIOCESAN CONFERENCE.

At the Lincoln Diocesan Conference on the 13th ult., the Rev. Canon Clements read a paper entitled "The Ecclesiastical Dilapidations Act of 1871; Consideration of the House of Commons Committee's Report." He said that the Act left untouched and even aggravated one great evil; since in the case of an insolvent predecessor it compelled his successor to pay down the whole amount of the dilapidations assessed, of which, perhaps, he could not recover one single sixpence, and to pay it in advance was almost sure to be distressingly inconvenient. On the face of it, then, the Act was imperfect, and on this point, if nowhere else, harsh in its operation. But in its general working also there had been very considerable friction. No doubt, it must be admitted that some friction was certain, because they might assume it to be necessarily true that the bringing in of any better system upon an old and lax system, must always entail inconveniences. Present incumbents must suffer more or less from the fact that they came in under the lax system, and were going out under a strict system. But allowing for this to the full, and for the necessary hardship and irritation caused by it, he could but believe both that the Act itself was needlessly oppressive, and too often had been oppressively worked. The most suffered and paid; the few did battle against the official administrators of any Act of Parliament. As it stood, most unquestionably the Act was causing very widespread uneasiness, not to say dismay. Well, then, what was to be done? He replied that the Act must be amended, and amended at once. He concluded by suggesting that an attempt should be made to define what dilapidations were in a schedule; that the archdeacon should be substituted for the bishop in the wording of the Act; that the remuneration of the surveyors of each diocese should be increased; that the time should be extended for making objections to the surveyors' report, as to matters of fact or law; and that some local tribunal, perhaps the County Court, should hear and determine such objections; that the term of five years in which an incumbent is required to have his buildings subjected to an inspection shall be extended to fourteen years, &c. These and such like changes would make it more palatable, and not destroy its value.

After some discussion, the bishop put the following to the Conference:—

"That in the opinion of this Conference, the Dilapidations Act urgently needs immediate amendment; that it be a request to the archdeacons and rural deans of the diocese to meet as soon as possible and consider the subject, and to frame a report upon it after communication with the laymen of the diocese, whose presence and co-operation should specially be invited, and to communicate with members of the Legislature before the meeting of Parliament."

The resolution was carried *nem. con.*

**Make a Note of it.**—At the last meeting of the Tiverton Highway Board, the chairman complained of the long and, as he considered, unnecessary delay which had taken place in the reconstruction of the bridge at Bickleigh, which was washed away by the floods twelve months ago. He thought the county surveyor was to blame for such waste of time. The surveyor (Mr. Besley) said that was not so. There had been many causes to contribute to the delay, the chief thing being the transfer of a small piece of land which was required. The land cost 15*s*., and the expense of transferring it was 25*l*. The chairman thought that fact should be made a note of.

## SALE OF THE BUILDING MATERIALS OF KNIGHTSBRIDGE BARRACKS.

On Tuesday, by order of the Commanding Royal Engineer, Messrs. Horne, Eversfield, & Co., sold the first portion of the building materials of the Hyde Park Cavalry Barracks, at Knightsbridge, which are about to be taken down and rebuilt. The materials disposed of comprised that portion of the building consisting of the stables for the troops, with the dwelling-rooms above, enclosing the parade-ground, and which are three stories in height. The structure, it was stated, comprised 1,500,000 bricks, 500 squares of slates, and eighteen tons of lead, in addition to the floors, timber, and other general building materials, and the stable fittings, the whole being divided into 194 lots. There was an unusually large attendance of persons connected with the building trade, and it was considered that the several lots fetched prices much above the average realised at such sales, more especially the bricks and the slates, for which there was an active competition. The present scarcity of bricks caused a great demand for these portions of the materials, and it was a noticeable feature in the sale that they were almost all bought up by builders as distinguished from dealers or the trade. The lead also was in great demand, and sold at high prices. The entire proceeds of the day's sale were about 4,300*l*. The conditions of the sale were stringent as to the immediate clearing away of the materials, which is to be completely effected by Saturday, the 16th of December, the time for removing the lead, slates, sashes, doors, paving, and fittings, being limited to four days after the sale, so that during the present week the building has already been dismantled of these several materials. The portions of the materials of the structure yet remaining to be sold are the officers' quarters and the riding-school, and we learn that these will be disposed of in a few weeks, when the entire site will be cleared for the intended new barracks, the erection of which, it is stated, will occupy about three years, and the troops which occupied the old building (the 1st Life Guards) are in the meantime stationed at the Regent's Park, Hampton Court, Kensington, and St. John's Wood barracks.

## NETLEY ABBEY.

We are sorry to find from a report in the *Hampshire Independent*, that the public are threatened with the loss of the old approach from Southampton water to the ruins of Netley Abbey. In an antiquarian point of view this road is full of interest, and, from its antiquity, privacy, and beauty, ought not to be lost.

We find in Bullar's old notice of Netley Abbey, and in the more recent work on Hampshire, by Mudie, this roadway spoken of as being the most favourite approach to these well-known ruins by water, and we hope efforts will be made to preserve this ancient right of way from destruction, the parish vestry of four persons having, to the surprise of the parish generally, agreed to accept a new road to the beach more remote from the abbey in lieu of this ancient way, on the plea only that it is somewhat less steep.

## SKETCH CLUB COMPETITION.

An interesting competition, which, we are inclined to think, does not receive its fair share of public attention, took place at the South Kensington Museum on Thursday, the 26th ult. We refer to the annual competition of the Sketch Clubs in connexion with the various metropolitan Schools of Art. The competition is yearly growing, inasmuch as in 1874, when the challenge was issued by the Gilbert Club (St. Martin's School of Art), Lambeth Club only responded, on the present occasion two additional clubs accepted, viz., South Kensington (Female) and West London. One hundred and seventeen sketches were exhibited; and Messrs. Alma-Tadema, A.R.A.; H. S. Marks, A.R.A.; and E. J. Poynter, A.R.A., officiated as judges. Prizes of the value of 3*l*. each were awarded as follows: Figures, subject, "Waiting," Mr. H. Schäfer (Gilbert); and an extra prize given by the judges, Mr. H. Glindoni (Gilbert). Landscape, subject, "Far from the busy haunts of men," Mr. J. Seymour Lucas (Gilbert). Animals, subject, "A Chase," Mr. W. K. Stevens (Lambeth); and Sculpture, subject, "Waiting," Miss Henrietta Montalba (South Kensington). The award of honour for the best aggregate of work fell to the Gilbert Club.

The show of sketches was, on the whole, very creditable; and we noticed amongst the competitors, in addition to those who obtained prizes, Miss Hilda Montalba, Messrs. E. R. Breach, W. H. Dolman, Frith, Phillips, H. J. Rhodes, &c.

We understand that one or two additional clubs have signified their intention of taking part in next year's competition.

## ST. LAWRENCE CHURCH, NORTHAMPTON, COMPETITION.

A competition was advertised for this church some months ago, to which no fewer than ninety-one architects responded. Competitors were required to send in a block plan, a ground plan, and one elevation, under motto. These were to be submitted to Mr. Ewan Christian, and six were to be selected whose authors were to compete a second time for the final commission. These six designs, which were to be explained by plans, elevations, and sections, accompanied by an outline perspective, if thought desirable, were to be also submitted to Mr. Christian, who was to advise the committee as to the best design. The church was to accommodate 800 persons, and the cost not to exceed 8*l*. per sitting, exclusive of heating, lighting, boundary-walls, and architect's commission.

The conditions distinctly stated that the design selected should be capable of being carried out within a limit of 10 per cent. of this amount, which gave a total cost for the church, exclusive of heating, &c., of 7,040*l*.

The design selected by Mr. Christian was that bearing the motto "Deus volens," and was found to be by Mr. Alfred W. N. Burder and Mr. Arthur Baker, of London. A limited number of builders last week submitted tenders, when that of Mr. John Watkin, of Northampton, was accepted for 5,803*l*. The church is to be immediately proceeded with.

## "THE MYSTERIES OF THE BUILDING] TRADE."

"Inquirer," in a letter to the *Northern Daily Express* (Newcastle) writes:—"I notice in your impression of to-day an interesting paragraph relative to the prosperity of the building trade, which, I am afraid, is not applicable to this district at the present time. It must have been long apparent to the most casual observer that there is an extraordinary elasticity in the operations of the trade which an outsider will have some difficulty to understand or to reconcile. If we take up the *Builder*, or any other journal connected with the trade, we shall probably see every week the greatest diversity of opinion exhibited by the trade themselves in the shape of estimates—the amount of the tenders often ranging from 5 to 30 per cent. difference for the same job; so that an unprofessional builder can only entertain a most vague idea as to what any proposed structure may cost, though he may possess a good notion of the value of labour and material. At the present time, when the subject of artisans' dwellings is before the Council, and the problem of how to build them in the most satisfactory and economical manner is so much studied, any information as to the data on which builders base their diverse estimates may be of service. The anomaly of one class of workmen receiving a high rate of wages, whilst their brethren in other trades have the greatest difficulty in making ends meet, cannot exist long. The great number of houses now to let at the outskirts of the town, and the trouble in selling them, except those in choice situations, is a significant sign of our return to a more healthful state of trade with regard to house building."

**Banff.**—A stained-glass window, by Messrs. Ballantyne & Son, of Edinburgh, has been placed in the east end of St. Andrew's Church, Banff, and the original window of Powell's quarries transferred to the west. The new window is the gift of Mrs. Morison, of Bognie and Mountblairy. The subject of the window is the three Apostles of the Transfiguration, Peter, James, and John, who at various times were taken into closer relation with our Lord than the other Apostles. Over the heads of the figures is some canopy-work, with an inscribed scroll.

## LOCAL STANDARD MEASURES OF LENGTH.

Mr. Chisholm, the Warden of the Standards, has issued a circular letter to county authorities. The communication states that the Standards Department has been frequently called upon to notice the serious errors found in the length of measuring chains, tapes, &c., used by surveyors and others for the measurement of land, as well as the others in 1 ft., 2 ft., and 3 ft. rules used by mechanics and other persons. The standard measures of length at Trafalgar-square have been constructed in the most complete and durable manner, particularly the 100 ft. measure and the chain measure of 66 ft., as they are intended to be constituted the legal secondary standards of these measures at length under the provisions of the Standards Act, 1866.

"They have since" (continues the letter) "been so constituted by Her Majesty's Order in Council, dated 27th June, 1876, and published in the *Gazette*. But it should be pointed out that it is by no means requisite that similar public standards should be constructed in other localities in so costly a manner as these more authoritative standards. It is, however, necessary in order that any such local measures of length should be duly authenticated by the official stamp as public standards, that they should be properly constructed with respect to their sufficient stability and durability, and to their due conformity with the standard. A low platform of masonry should be erected for the support of the measures of 100 ft., and 66 ft., and the total length of the measures, with their subdivisions accurately determined and inscribed, should be defined by lines upon metal blocks let into the masonry. The Standards Department will be prepared upon application to furnish proper instructions for laying down these standard measures of length, the cost of which must be defrayed by the several local authorities; and also to verify them by comparison with the official standards and authenticate them with the official stamp of verification, without any fee for such verification being payable by the local authorities, so soon as they are completed to the satisfaction of the department. But the actual cost of travelling and hotel expenses of one of the officers of the Standards Department and of one of the mechanics must in that case be borne by the local authorities, in accordance with the practice of their also bearing the cost of sending their local standards to the Standards Office for verification or re-verification. Mr. W. Airy, the engineer, under whose immediate superintendence the work of laying down the standards in Trafalgar-square has been executed, has furnished me with the following estimate of the expense of laying down similar standard measures of 100 ft., and chains of 66 ft., in other localities:—Preparing for and erecting a platform of brick, 103 ft. long, 3 ft. broad, and 1 ft. high, with a covering of York paving flags 2 in. or 3 in. thick, upon a base of concrete 18 in. thick, 42*l*. 9*s*.; cutting holes and fixing blocks, 4*l*.; two zero terminal blocks, 29 division blocks, and two descriptive tablets of cast iron, 3*l*.; total, 49*l*. 9*s*. The cost would of course be materially lessened in all cases where a sufficiently stable base for the standard measures may already exist. I have only to add that I trust the several local authorities will recognise the importance of thus publicly exhibiting authentic copies of the standard measures of length, more especially of the surveyors' chain of 66 ft. and the building land measure of 100 ft. From the mode in which these measures are ordinarily used, they are liable to vary continually in length, and require frequent readjustment. Much of the now existing uncertainty and disagreement in the measurement of land would be avoided if accurate standards of these measures of length were exhibited in various localities, and made readily accessible to the public."

## A NEW SUBURB FOR GLASGOW.

Within the last few years the extension of railway facilities has done much towards the creation of purely residential suburbs. Pollokshaws and the extremity of Hillhead not long ago were considered pretty far distant from the bustle of business; but now we have large numbers building and selecting houses for regular residences at three and four times such a distance from Queen-street. When Lenzie was laid out for feuing the ground was quickly taken up, and in that place there is now a perfect colony of Glasgow merchants. On every side of the city villages have cropped up, and now there is a tendency to stretch the morning and evening travel a little farther. Since Lenzie has been such a success, situated as it is on the track of the western section of the North British Railway, and at a distance of some six miles from the city, there is now a proposal to open up Dullatur and Dykehead, two small estates lying between the Cumbernauld policies and the eastern boundary of Dumbartonshire. The two places, in fact, form one district, and though Dykehead is the larger of the two, the proprietor and occupant of the old mansion of Dykehead, Mr. Lennox, has selected the better known name of Dullatur for the new village.

Dullatur is situated about two miles from Kilsyth and a mile and a quarter from Cumbernauld, and by rail it is about thirteen miles from Glasgow. Lying on the brow of a slope to the south-east of Kilsyth, it commands a fine view of the long range of hills that stretch from Campsie to the Carron, and of the picturesque valley of the Kelvin that intervenes. The district has at pre-

sent a somewhat forlorn look, but if the feuing plan which has been prepared by the proprietor is properly carried out, there will (says the Glasgow *Evening Times*) rise up in the course of a few years one of the best situated and healthy villages in the midland counties of Scotland. The lands consist of 80 acres of Dullatur and 84 of Dykehead—164 in all; and it has been arranged in the meantime to feu 31 acres. A new station has been opened just at the bridge which crosses the public road from Cumbernauld to Kilsyth; and the ground set apart for feuing is on the Cumbernauld or south side of the line. A new road—the Victoria-road—has been formed from the station to Dykehead or Dullatur House; and the old avenue is to be absorbed in one of the new streets, The Victoria-road will be the main thoroughfare, and there will branch off it Prospect-road, Plantation-road, and four or five other roads not yet named. The plan shows feus for fifty-four houses, and one condition is that the feuars shall have a right to erect terraces or crescents as they may think fit.

## "DUSTING AND SLOPPING" IN WHITECHAPEL.

Mr. S. W. Iron, surveyor to the Whitechapel District Board of Works, has just presented a report as to the collection and removal of the dust and slop from the district. The report is of some interest, inasmuch as Whitechapel, following the example of some other Metropolitan parishes, a year ago took into its own hands the work of collecting the dust and removing the slop. The result has been (according to the report) that the work has been much better attended to than was the case under the system of contracting, and, moreover, with a saving to the ratepayers of nearly 1,000*l.* on the year's work. The report shows that the net cost of the work of collecting and removing the dust was 2,656*l.* 1s. 7d., while the cost of removing the slop (including rent of shoot) was 5,046*l.* 10s., making a total for the two items of 7,702*l.* 11s. 7d. As compared with the cost of the work for the last year under the contract system, this shows a saving of 826*l.* 12s. 10d. The number of loads removed was,—dust, 10,606 (maximum number of carts employed fifteen; minimum, six); slop, 10,656 (plant employed, five wagons, carrying two loads each, six vans, and four carts).

## AN AQUARIUM FOR BIRMINGHAM.

The *Birmingham Gazette* announces that arrangements which for the last few months have been in progress are now nearly completed, and that it is probable a marine aquarium upon an important scale will shortly be established in Birmingham.

From a circular which has been privately issued by Messrs. Ryland, Martineau, & Carslake, our contemporary learns that an association has been formed to provide, by means of an aquarium and high-class music, recreation and instruction of a kind not at present to be found in Birmingham. A plot of land in a suitable position has been secured, and plans for a building have been prepared by Mr. Chatwin. The aquarium will be similar in importance and extent to that of the Crystal Palace. It is intended that the space inclosed by the corridors of the aquarium shall form a concert-room to accommodate from 2,000 to 2,500 persons. This will, it is thought, supply a want long felt in the town. The concert-room and aquarium will be available, together or apart, as occasion may require.

## CLAIM FOR DILAPIDATIONS.

DEACON AND OTHERS *v.* MORLEY.

In this case, heard in the City of London Court before Mr. Commissioner Kerr, the plaintiffs were Mr. John Deacon and the Earl of Leven and Melville, trading as Neville, Reid, & Co., brewers, Lambeth, and the defendant Mr. William Morley, 152, Bishopsgate-street.

The action was brought to recover 16*l.* 10s., the amount of alleged dilapidations to a public-house, by name the King's Head, of which the defendant had been a tenant. Mr. Rolland was for the plaintiffs, and Mr. Kemp for defendant. The agreement under which the defendant held possession was put in. It stipulated that he should do all the customary tenants' repairs to the interior of the house, particularly the painting, glazing, whitewashing, and cleansing. These things were to be done to the satisfaction of the plaintiffs' surveyor. When the defendant left the house, and Mr. William March took to it without, it is said, having made any repairs, the amount in the action was put down for dilapidations. Defendant allowed it only under protest, pointing out that he had painted the outside of the house. Since then he had incurred a debt of 16*l.* 16s. to the plaintiffs for beer supplied, and now paid 6s. into court in discharge of the entire claim of the plaintiffs.

The learned judge put the following three questions to the jury:—Was defendant indebted to plaintiffs to the extent of 16*l.* 16s. for beer supplied? Did the plaintiffs retain 16*l.* 10s. for alleged dilapidations to the premises? and, Did the defendant consent to this detention? The jury replied in the affirmative to the first two questions, and in the negative to the last question. On the instigation of Mr. Rolland, the learned judge put another question to the jury:—Did the 16*l.* 10s. represent the dilapidations, the surveyor of the plaintiffs (Mr. Carey) having given evidence that it did? To this the jury replied, in effect, that they could not answer it, the defendant not having been called upon to give his testimony upon the point. The learned judge decided that the case should stand over for two months, directing an action by the plaintiffs against the defendant for dilapidations. He took occasion to say that these proceedings had been necessitated by the insufficient way in which the incoming and outgoing was settled. If two brokers had met, one on behalf of the plaintiffs and another on the part of the defendant, they might have settled this matter by an agreement signed by the litigants. He would not then make any order as to costs.

## SOUND-PROOF FLOORS.

Sir,—It has long been a common error to suppose that solid substances stop the transmission of sound, whereas the very contrary is the case. Solid material is a better conductor of sound than a loose open material. You hear constantly of concrete being advocated *because* it is so solid that sound cannot possibly pass through it,—and Mr. T. Roger Smith and Mr. W. H. White actually propose its use for floors for the separation of flats because it is fire and *sound* resisting.

All fire-proof houses conduct sound from one apartment to another far more than ordinarily built houses. The reason is that solid substances conduct sound; and an ordinary floor with joists and lath-and-plaster ceiling is a better non-conductor than a concrete floor made in the way described by your correspondent "Inquirer."

This was found to be the case years ago by Mr. Thomas Cubitt in many of the houses which he built as fire-proof, and he endeavoured to remedy the defect, and was partially successful, by taking out some of the solid materials and substituting cockle-shells. The object was to create air-spaces or air-cells, which is the only effectual way of stopping the passage of sound. The usual precaution of "pugging" floors when put in solidly, I know, from experience, does more harm than good. Why the partition described by your correspondent was less sound-proof than the common lath-and-plaster one was because the boarding and hair-felt were put close together, while the other had an air-space in the centre. Let him separate the materials and form a central air-space, and he will soon find the difference. James K. Colling.

## SOUND AND FIREPROOF FLOORS.

Sir,—As an exemplification of the method of making fire-resisting floors proof against the evil of conducting sound by placing a second floor above or below them I refer to the whole of the flooring of the Westminster Palace Hotel, which, answering the principle of construction referred to is also provided with a perfectly independent ceiling below it, and in which, more perfectly to secure the non-continuity of material, the ceiling joists rest on binders carried from wall to wall in parts where, otherwise, the space would be too great for the ceiling joists alone. William Moseley.

## MASTERS AND MEN.

*Darlington.*—The plumbers of Darlington struck last week, in consequence of the masters refusing to sign certain rules submitted to them by the union on the part of the men. Several of the rules are already acted up to, but others the masters considered arbitrary and unjust. Some of the more objectionable conditions are stated to be,—that men working at a distance shall be allowed tram fare even when they do not come home; that no more than one apprentice be allowed to each man, and that no improver be employed; that non-society men be not permitted to work in a shop longer than a fortnight unless they join the society; with other regulations which the masters considered unduly exacting. The plumbers at present are paid 7½d. per hour, and work fifty-three hours per week.

*Aberdeen.*—The *Aberdeen Free Press* says that considerable depression has set in in the granite trade, which for a number of years past has been increasing in extent, until it has come to be looked upon as one of the leading industries of the city. To a great extent the trade has depended upon orders from the United States of America, and these for a considerable length of time past have been flowing into the town in a constant and regular way. But the orders have, within the past few months, been exceedingly small in number and of inconsiderable amount, and the consequence has naturally been that trade in the various yards in town has become unusually dull. The chief employers of labour in this industry—Messrs. Macdonald, Field, & Company—have, within the last few days, been compelled on account of the scarcity of orders, to put their workers upon short time. Instead of, as heretofore, nine hours per day the working time is now reduced to eight hours, and as winter draws on it is understood that there will be a further reduction of another hour. The workmen in the employment of Mr. Petrie are now working eight hours and a half, and the slackness is so general that it is anticipated that similar if not more serious reductions will be made in other yards in the city.

## SURVEYORSHIP ITEMS.

*Ryde, I.W.*—Mr. John Cardell Trounson, of Penzance, has been appointed assistant borough surveyor of Ryde; and Mr. A. Sivell has been elected assistant surveyor for the Ryde Urban Sanitary District.

*Gateshead.*—At a meeting of the Gateshead Town Council on the 25th ult., the finance committee reported that upon the application of the town surveyor, the committee had pleasure in recommending the increase of his salary from 450*l.* to 500*l.* per annum, the increase to take effect from the 1st September last. The report was confirmed.

*Newmarket.*—At a meeting of the Newmarket Local Board of Health, on the 25th ult., the chairman submitted the applications and testimonials of the following persons who were candidates for the office of working surveyor and inspector of nuisances, viz.:—Mr. E. Hoskins (Exning), Mr. Chas. Griffin (Soham), Mr. Alfred Cook (Mildenhall), Mr. Simeon Fenton (Mildenhall), Mr. Wm. Paine (Bury St. Edmund's), Mr. J. J. Hook (Soham), and Mr. J. Rowling (Cambridge). Mr. Hook was selected as the most fitting person for the office.

## THE STATUS OF ARCHITECTS.

Sir,—I served my time in a leading architect's office, and for some years struggled to get a living as one myself, until I found that, from over competition and the want of position that an architect has to put up with—but chiefly from the latter cause—it was a most undesirable profession to follow.

Are matters improved? Taking up to-day's *Builder*, I notice two competitions open,—new Board Schools for "Thetford" and "Thurlby"; while, in passing the Horse Guards, I find that "saddlers, architects, tailors," &c., are still invited to join the British army as privates. It is not often that a man in after-life looks back with pleasure to his want of perseverance in earlier life; but I do, for I am glad I never continued the struggle; the more so as, out of the many pupils I knew, very few are now in practice; and out of that few, some of whom possess great ability, I know not one who has done half so well for himself as I have, although that is not saying much.

I think you could do all parties a kindness in endeavouring to prevent young men joining a profession in connexion with which such advertisements as mentioned, particularly coming from official quarters, are possible.

Henry Mercerон.

## TENDERING AT RIPLEY (DERBY).

Sir,—Your correspondent, "One of the Lowest Six," appears to have somewhat hastily jumped to a conclusion, without troubling himself, first of all, to inquire into the facts of the case. Will you allow me to inform him that, in this instance, the clause, "The Board do not bind themselves to accept the lowest or any tender," was, from the first, intended to allow of the *designs* sent in with the tenders being considered quite as much as the *prices* quoted: and I have yet to learn that this is a meaning which "respectable engineers" would hesitate to attach to the clause.

Be that, however, as it may, in the present case design, workmanship, and price, were all carefully considered; and, so far as I am able to judge, the Board came to a *wise* and *just* decision.

Possibly, if your correspondent will in future pay a little more attention to other matters than price, he may yet discover a more excellent way than being "One of the Lowest Six." R. Argile, Jun., Engineer.

## PRINTING ON WOOD.

Sir,—With reference to this decorative process, which you were so good as to notice in your issue of October 28th, permit me to say, that I, being a nurseryman, merely furnish premises and other conveniences, and that the responsibility of the manufacture rests entirely with the inventor and artist, Mr. T. Whitburn, under whose superintendence it is carried on.

Maurice Young.

## THE CHELSEA EMBANKMENT.

Attention has been drawn by reports in the daily papers this week to the condition of the Chelsea embankment, which has been for some weeks showing a serious degree of settlement and displacement, chiefly noticeable in its effect upon the footway of the embankment immediately adjacent to the Battersea and Chelsea Suspension-bridge. It is said that the officials of the Metropolitan Board of Works were at first of opinion that the girder-bridge connecting the embankment with the steamboat-stage was acting prejudicially on the masonry in drawing out the front portion of the river wall. The bridge was disconnected, but the subsidence of the embankment was not checked, nor could we see, when we looked at the spot on Tuesday last, any appearances which should have countenanced such a supposition. There was then a slightly-perceptible bulge in the face of the river wall, to be detected on running the eye along the masonry eastward of the landing-stage bridge; but it was evident that the failure and disturbance were behind the river wall rather than in the wall itself. The broad flagged walk had sunk considerably in the centre, along a space of 30 yards or so; the flags were more or less tilted at the edges and disjointed, and the margin of the flagging next the roadway had separated by several inches from the granite curb, which still remained unmoved. If the gap left between the curb and the flagging represented the amount by which the river wall had moved from the perpendicular, it would be a very serious thing; but this did not seem to be the case, the drawing down of the inner margin of the flagging being evidently partially due to the subsidence of the ground in the centre of the foot-walk; if the whole mass had moved with and was following the front wall, the surface of the flagging would probably have been nearly undisturbed; it would have only canted bodily. The appearances plainly point to a softened state of the earth forming the backing of the wall and the foundation of the foot-walk, which has caused the subsidence of the latter, and is also pressing outwardly upon the river wall. We understand the mischief is now attributed to the softening of the ground by an unsuspected spring, which seems not improbable. A shaft had been sunk, at the time we mention, through the carriage-way of the embankment, from the bottom of which were being brought bucket-loads of wet clay, which one might suppose to have a great capacity for "sliding." The affair may be rather troublesome, but does not seem likely to present any insuperable difficulty. The papers seem rather to have made the worst of it.

## THE ROYAL AQUARIUM, WESTMINSTER.

If we may judge from the large number of people assembled at the Aquarium last Saturday evening, a better prospect exists for its success than some have lately entertained. We have felt surprise that this agreeable place of amusement has not hitherto been better attended. So large and so interesting a collection from sea and river as there now is alone should attract the public. In the Fine Art Department, though there is much that is good both in pictures and sculptures, doubtless, an improvement should be made. But what should be said of the band? The greatest credit is due to those who had the office of its selection, to the conductor, and to the musicians themselves. The manner in which the judiciously-chosen music is performed calls for the highest praise. Nothing but mismanagement has kept this place down.

## THE ARCHÆOLOGY OF ROME.

Sir,—The critique on my chapter on the Roman Forum is fairly done from the writer's point of view, but he makes no allowance for the great difficulties I have had to contend with from circumstances beyond my control: he does not understand the plan of my book, which is, as far as possible, to make each chapter or part complete in itself; but as the booksellers strongly object to pamphlets, two parts are necessarily bound up in one volume. If you will be kind enough to send to the writer the copy sent herewith, in which the two parts are done up separately for use in Rome, and the advertisement sheet inclosed with it, which explains the plan of the book, he will see what I mean. It is evident also that he has not received an important leaf of the description of the plan, which was omitted by accident by the bookbinder, and a copy was sent to your office with an explanation as soon as the mistake was discovered. He is mistaken also in talking of "after-dinner" speeches. The late Lord Stanhope said,—repeatedly and formally, as President both of the Society of Antiquaries of London and of the Kent Society, sometimes when I was present, at other times when I was not present,—that "if other people would teach archæology in the same simple, natural, easy manner that I did, the study would be far more popular than it is; the importance of the subject can hardly be overrated, but it is usually taught in such a dry, technical manner, that persons of ordinary education soon become disgusted with it." The reason of this is that I always endeavour to teach by the eye as far as possible, and I know that technical words are only half understood.

John Henry Parker, C.B.

## MESSRS. DOULTON AND THE BRICKLAYERS.

Too late for insertion we received a letter on this subject from Mr. Coulson, secretary of the Bricklayers' Society. After replying to some statements made by Mr. Doulton, the writer says,—"To prevent, if possible, any longer continuance of this unhappy contention, I, on behalf of the Bricklayers' Society, offer to submit the question to a Board composed of any number of architects. Mr. Doulton himself may decide upon architects to be chosen by him and the Bricklayers' Society. The Board to take evidence from some members of Mr. Doulton's firm and workmen in the building trades. Should this be adopted by Mr. Doulton, there is no reason that I know of why it should not become a permanent Board for the adjustment of all future disputes between employers and workmen for the building trades in London."

## WHITTLESEA SCHOOL COMPETITION.

Sir,—I have neither time nor inclination for a controversy in a public paper, but noticing in your last issue, under the above heading, a direct attack upon me, impugning my right to enter an architectural competition, I beg to say that the letter of Messrs. Bell & Lovegrove commences with an unwarrantable insinuation that I "turned architect because I happened to have powerful local influence." The Whittlesea schools were not the first for which I competed. I studied and practised architecture long before I entered the employment of Mr. Elworthy as general foreman, and have, since leaving that gentleman, been professionally engaged in architectural pursuits, and am happy to say can produce testimonials from those whom I have had the honour of serving, of their unqualified satisfaction in the results of my labours. The assertion that I "cannot have that special knowledge," &c., is simply absurd, as your correspondents could not possibly know my resources in that respect. The implied accusation against the integrity of the School Board, I leave in the abler hands of the chairman and gentlemen of that body to repudiate. In conclusion, may I ask whence the "high opinion" of Messrs. B. & L. of builders' foremen? Is it that they (as frequently occurred to me when in that capacity) have had to reduce to practicable application the senseless though prettily-coloured pictures of so-called professional gentlemen?

C. F. Langford.

## SCHOOL BOARD SCHOOLS.

*Tylers' Green, Penn, Bucks.*—New Board schools have just been opened here accommodating 200 children, with teachers' residence and outbuildings. The style is of Early English Domestic character, in red bricks, and axed flint work, surmounted with shingled bell-turret. All the exterior walls are hollow and ventilated, Mr. Wm. Woodbridge, of Maidenhead, was the contractor for the work, and Mr. Arthur Vernon, of High Wycombe, the architect. The total expenditure amounts to about 1,850*l.*

*Shelf.*—A new Board school is now being erected at Shelf, from plans by Messrs. Jackson & Fox, architects, of Halifax. The site, 2,200 square yards, is on the Shelf Hall-lane, fronting south towards Belle Vue. The building is in one story, presenting twelve windows to the front, also the porch window, and the four-light window of the infants' school, which is set at right angles with the main building. The mixed school is 60 ft. by 22 ft., and the two class-rooms attached each 20 ft. by 16 ft. The infants' school-room is 30 ft. by 23 ft.; and its class-room 14 ft. by 23 ft.

*Slamannan.*—A new Board school at Slamannan was opened on the 11th ult. The building has been erected from plans drawn by Mr. Watt, architect, Glasgow. It is placed at the west end of the village in a very airy situation, and is in the form of a parallelogram. The building consists of a principal school-room, 64 ft. long by 26 ft. broad, which can be converted into two rooms by a folding door. At each end of this room is a class-room, 16 ft. by 18 ft., and a retiring-room for the teachers, while at the back is an infant school-room 24 ft. square. The whole building, as also schoolmaster's house, out-houses, walls, &c., have been built at a cost of upwards of 2,500*l.*, being at the rate of 7*l.* 7*s.* per scholar, the school being intended to accommodate 350.

*Radstock.*—New Board schools were opened at Radstock on the 16th ult. The site on which the buildings are erected is three-quarters of an acre in extent. The schools, which accommodate 200 children, have a teachers' residence attached. Sixty boys and sixty girls can be taught in an old school-room, 50 ft. long by 18 ft. wide, with a class-room adjoining, and eighty infants in another school-room, 32 ft. long by 20 ft. wide. The style of architecture is Early English. The buildings are of stone, quarried from the site, with outside freestone dressings. Inside, the walls are roughly faced and pointed. The walls are 15 ft. in height above the ground-floor, the whole of the roofs are open to the ridge, are covered outside with Roman tiles, and inside ceiled. The supporting woodwork that may be seen is stained and varnished. The cost was estimated at 1,560*l.*, but there have been a number of extras. The architect for the work was Mr. Alfred Harford, of Bristol; and the builder, Mr. Joseph Bird, of Writhlington.

*Stonehaven.*—On the 18th ult. the schools which have just been erected in the New Town of Stonehaven by the Fetteresso School Board were formally opened. The schools have been erected on a site in Ann-street, overlooking the town and commanding a view of the German Ocean. They have superseded what were formerly the Parish and Free Church Schools. The plans of the new schools were prepared by Mr. M'Kenzie, architect, Aberdeen. On the sloping ground in front of the schools are large playgrounds for the boys and girls. On the ground-floor is the infant department. The principal class-room in the south end is lofty and commodious, and in the north end is a teachers' room, a board-room, &c. In the north end of the second floor is the principal class-room of the senior teacher. All the walls are lined with dados of stained wood. The total cost of the schools has been fully 4,000*l.*

*Shieldhill.*—On the 30th ult. the new public school at Shieldhill, erected by the Polmont School Board from plans drawn by Mr. T. B. M'Fadzen, architect, Edinburgh, was opened.

*Melverley.*—The new Board school at Melverley was opened on the 29th ult. It is in the Gothic style, and has been built of Breidden stone with red-stone dressings, from the original designs of Mr. J. Martin Kerry, with alterations made by Mr. John Morris, clerk to the Board. It will accommodate about forty-five children. Mr. W. Griffiths, of Knockin, was the builder and the cost of the erection was 380*l.*

## SCHOOL-BUILDING NEWS.

*Cowley (Uxbridge).*—The new Church schools which have been erected in this parish were opened on Michaelmas-day. The site was presented by Mrs. John Tylden Pattenson. The school accommodates 45 children. A mistress's house is attached. The cost was 700*l.* The work has been carried out by Messrs. Fassnidge, of Uxbridge, under the superintendence of Mr. Augustus Frere.

*Bradford.*—New Sunday schools in connexion with the congregation of College Chapel, High-street, Bradford, are about to be commenced. The site adjoins the present chapel, having frontages both to Park-gate and Barnet-street, and upon it is intended to be erected a building in the Italian style. A peculiarity which will distinguish the new College schools is that the great bulk of the scholars will be accommodated in separate class-rooms instead of in the open school. In the new College schools there will be eighteen class-rooms (including two of large size for young men's and young women's classes), all communicating directly with an assembly-room, besides a lecture-room so arranged that it may be used as two large class-rooms. This assembly-room will be 75 ft. by 42 ft., with an open-timbered roof, and having a gallery at one end and the sides lighted by "lantern light" from the roof, and three large windows in the gable to Park-gate. At the opposite end will be a large platform. The infants' class-room will

be 27 ft. by 24 ft., fitted with a gallery; and the lecture-room, 39 ft. by 24 ft., will be suitable for week-night services. The architects are Messrs. Hargreaves & Bailey, of Bradford, who propose to heat the building by a combination of hot air and hot water. The accommodation will be for 750 scholars, and the estimated cost (exclusive of the site) will be about 4,000*l.*

*Glentworth.* — The new school-building at Glentworth, Lincolnshire, erected by the Earl of Scarborough, and containing two class-rooms, cloak-rooms, &c., together with school-desks and seats capable of accommodating 100 scholars, was opened on the 10th ult.

*Cardiff.* — The St. Paul's Roman Catholic Schools, Tyndall-street, Cardiff, were opened on the 12th ult. The school, which is of Gothic design, was built by Mr. David Jones, of Park-street, from a design of Messrs. James & Seward, and was built at the sole expense of the Marquis of Bute, the contract being taken by Mr. Jones for 3,500*l.*, exclusive of internal fittings. There are two rooms, each capable of accommodating 250 children. The lower room is fitted with a screen and altar, and will be used as a chapel on Sundays.

*York.*—The new Adult School in Lady Peckitt's yard, York, was opened on the 18th ult. The structure is a commodious four-storied edifice, which, when furnished, will cost about 3,000*l.* It has been erected from the designs of Mr. E. Taylor, of Stonegate, York.

*East Chinnock.*—A new National School at East Chinnock was opened on the 28th ult. The school, which is built for the accommodation of about 100 children, is in the Gothic style, and is of Ham stone in random work. The schoolroom measures 33 ft. 9 in. by 20 ft. 4 in., and the class-room connected with it is 21 ft. 8 in. by 20 ft. It also possesses a porch. A comfortable house for the schoolmistress adjoins the school. Mr. Draper, of Crewkerne, is the builder, and Mr. Shewbrooke the architect.

## Books Received.

*Lectures on Architecture: Translated from the French of Viollet-le-Duc*, by BENJAMIN BUCKNALL. Part II. London: Sampson Low, Marston, & Co.

THIS is the second volume of the English translations of M. Viollet-le-Duc's Lectures on Architecture, which are to be completed in six parts. We noticed at some length the first volume (p. 585, *ante*), intimating at the same time that any further review of the work in detail would probably be best deferred till it was completely before us. We therefore content ourselves for the present with calling attention to the second volume of these remarkable lectures, which are full of subtle critical thought and analysis, expressed in a perfectly clear literary form (very satisfactorily rendered by the translator), and which are not only highly suggestive to the professional architect, but may prove the most valuable lesson-book possible for the general public, upon architectural style and its constituents, if only the public can be induced to read them, instead of the text-books of Gothic mouldings, or the vague aspirations of Mr. Ruskin, which form the two boundaries of architectural study with most of the few amateurs who give any attention at all to the subject.

The two lectures included in Part II., which are on a sufficient scale to make a pretty good volume in themselves, deal, the first (VI.) with the decline of ancient and the rise of Christian architecture, the two being connected by remarks on the essential qualities of style and design; while the second (VII.) treats of "the principles of Western architecture in the Middle Ages." The illustrations are conceived and drawn in that admirable style which is characteristic of all M. Viollet-le-Duc's publications, in which the artistic expression and the practical construction of the work illustrated are shown with equal care and precision, in a manner combining pictorial effect with strictly architectural drawing. To the young student of architecture these drawings, showing in so plain and practical a manner the relation between appearances and construction in building, are in themselves a kind of education.

In commencing his remarks on "Style," the author illustrates what he means by "style" in the abstract (as distinguished from a "style"), by the description of three different ways of making a simple implement, such as a copper vessel for holding water. He takes the art at the time when the workman discovers that by beating a sheet of copper in a particular way he can give it the form of a vessel. He only needs for this a piece of iron as a point of support, and a hammer. The three imaginary stages in the progress of the "art" will give an idea of the author's line of reasoning:—

"The workman can thus, by beating the sheet of copper, cause it to return on itself, and of a plane surface make a hollow body. He leaves a flat circular bottom to his vessel, so that it may stand firm when full. To hinder the liquid from spilling when the vessel is shaken, he contracts its upper orifice, and then widens it out suddenly at the edge, to facilitate pouring out the liquid. There must be a means of holding the vessel; the workman therefore attaches handles with rivets. But as the vessel must be inverted when empty, he makes the handles so that they shall not stand above the level of the top of the vessel. Thus fashioned by methods suggested in the fabrication, this vessel has style: first, because it exactly indicates its purpose; second, because it is fashioned in accordance with the material employed and the means of fabrication suited to this material; thirdly, because the form obtained is suitable to the material of which this utensil is made, and the use for which it is intended. This vessel has style, because human reason indicates exactly the form suitable to it. The coppersmiths themselves, in their desire to do better or otherwise than their predecessors, deviate from the line of the true and good. We find, therefore, a second coppersmith, who wishes to alter the form of the primitive vessel in order to attract purchasers by the distinction of novelty; he gives a few extra blows of the hammer, and rounds the body of the vessel, which had hitherto been regarded as perfect. The form is in fact new, and all the town wish to have vessels made by the second coppersmith. A third coppersmith, perceiving that his fellow townsmen are taken with the rounding of the vase, goes still further, and makes a third vessel which is still more popular. This last workman, having lost sight of the principle, bids adieu to reason, and follows caprice alone; he increases the length of his handles, and advertises them as of the newest taste. This vessel cannot be placed upside down to be drained without endangering the shape of these handles; but every one praises it, and the third coppersmith is credited with having wonderfully improved his art, while in reality he has only deprived a form of its proper style, and produced an unsightly and relatively inconvenient article."

The sketches, given by the author, of the three stages in the progress of the pot, quite bear out his remarks as to style, and, moreover, illustrate a distinction which every one must have noticed in comparing common forms of modern articles of this kind to the forms of the same kind of object in the best Greek or Mediæval age. The author carries the illustration out in regard to other objects: "A gun has style, but a gun made to resemble a crossbow will have none." Architects, he says, have for a long time been making guns to resemble crossbows, or, at least, arquebuses; "and there are persons of intelligence who maintain that if we abandon the form of the arquebuse we are barbarians,—that art is lost,—that nothing is left for us but to hide our heads in shame." The consideration is, of course, not new to our readers; but M. Viollet-le-Duc has a very graphic way of putting things.

## Miscellanea.

**New Asylum and Poorhouse at Greenock.** The foundation-stone of the Greenock new Asylum and Poorhouse has been laid, with Masonic honours, by the Earl of Mar. The building when finished will be one of the most extensive of its kind in Scotland, and will, it is estimated, cost over 100,000*l.* The architect is Mr. Starforth, of Edinburgh, and according to his plan the building will form four distinct sections—namely, the Poorhouse, Lunatic Asylum, Hospital, and Administrative Department. The style will be Old Baronial. The ground covered by the entire parochial premises will be fully four acres. The asylum, which will be situated to the east of the block, will be two stories in height, 290 ft. frontage, with a finely-designed tower in the centre. The poorhouse proper will be situated to the west, having the administrative department between it and the asylum. The poorhouse will be the largest section of the buildings, being three stories in height, 250 ft. in length from north to south. The hospital for treating cases of common disease will be situated westward of the poorhouse. There will also be a separate building, devoted to the treatment of contagious diseases, and probationary wards. Accommodation will be provided at present for 750 inmates.

**New Schools, Bristol.**—The Bristol School Board recently advertised for designs from architects for new schools, for 750 children, at Mina-road. In response, fourteen sets of drawings have been sent in. The designs of three architects were reported to the Board by the committee of selection as being of special merit, and one of three designs submitted by Mr. Stuart Colman, of Bristol, is chosen for execution.

**Roman Coins.**—A large number of Roman coins have been found upon the estate of Mr. John Clayton, of the Chesters and Newcastle-upon-Tyne. Mr. Clayton has extensive properties upon and adjacent to the Roman wall. As lord of the manor, Mr. Clayton has made many discoveries of interest during the past quarter of a century. He recently had workmen exploring land upon the farm at Corraborough, four miles west of Chatterford, on the North Tyne. They came upon a treasure-chamber containing many altars and thousands of Roman coins. It appears to be the greatest find of Roman treasure which has occurred in the North of England for some time. A military chest seems to have been dropped into a bath as soldiers had retreated from the Roman station of Procolitea, before the enemy, and there it has been marvellously preserved until dug out the other day. Mr. Clayton will lay the particulars of his great find before the Newcastle Antiquarian Society at its first winter's meeting.—The *Derbyshire Times* reports an interesting antiquarian discovery just made on the eastern border of that county. Workmen have been employed by Messrs. W. & S. Burkitt, the eminent maltsters of Chesterfield and King's Lynn, in laying down pipes, from Scarcliffe to their large new malt-houses at Langwith, on the borders of Derbyshire and Notts. In digging the necessary trench, one of the workmen laid bare a large earthenware vase, of Roman workmanship, buried about 2 ft. below the surface. Before he could be prevented, the man broke it open, and it was found to be nearly full of copper coins, probably 200 or 300 in number. Many of them are in tolerably good preservation, and the majority are coins of the reigns of Tetricus, Victorinus, Claudius, and Gallienus, judging by a sample of about fifty submitted to the inspection of the editor of our Derbyshire contemporary.

**Paving from Furnace Slag.**—There is now a possibility of the "Staffordshire oysters," as the scoriæ from blast-furnaces are facetiously called in the Birmingham district, being turned to profitable account. Mr. Joseph Woodward, of Bedale, Yorkshire, having patented an invention for making the scoriæ into blocks for road and footpath pavement, has put down a plant at Messrs. Turley's blast-furnaces, the Factory, Tipton, in order to produce blocks for the purpose. The molten slag runs from the furnace into moulds, which are fixed upon a rotary frame, and as fast as one mould is filled another presents itself to the stream. The moulds are opened whilst the blocks are red hot, and placed in a kiln at a certain heat, and there they stay for twenty-four hours. This is all the process, and it requires two men and two boys to use up 30 tons of slag per day. When ready for use the blocks are said to be very clean and hard. They turn a chisel, and the inventor claims for them that they are impervious to wet, and consequently to frost; the surface is level, but of such a nature that it bites the iron of the horses' shoes; the surface is chamfered, and so no horse could slip, whilst the chamfering, provided the street were laid upon a convenient gradient, would render the pavement a self-cleansing one. The blocks are made in five sizes in order to provide for different purposes.

**A Composite Church.** — The *Worcester Journal* contains an account of an outing of the Worcestershire Field Club. In the course of their rambles, the members visited Eastham Church, which deserves especial notice, from its chancel being built of slabs of travertine. To observe this travertine *in situ* was the object of the excursion. All the hills bounding this part of the Teme Valley belong to the old red sandstone system, which includes a stratum of cornstone, and all the springs that flow from the cornstone are loaded with calcareous particles, which are deposited by the waters of the brooks, and thus in various spots great masses of travertine are formed, like that at Southstone Rock, near Stanford. This process has been going on for thousands of years, and quarries are still apparent from which tons of travertine have been taken every year from the Norman times to the present day. Eastham Church presents a somewhat incongruous appearance, with its clean-looking travertine chancel, plastered nave, and modern square brick tower at the west end, for renovators took it in hand both within and without in tasteless times. The round northern doorway, however, shows its original aspect was Norman, and above it are some intersecting arcades. Grim bits of sculpture of Norman date are scattered also about the fabric.

**German Iron Trade.**—The German Government has published some interesting statistics as to the production of iron in Germany for 1874. From these statistics it appears, according to the *Pall Mall Gazette*, that during that year there were 324 blast furnaces, which worked for a total of 2,801 months, or, upon an average, for about eight months and twenty days each out of a possible total of twelve months. The quantity of iron ore used amounted to 4,342,184 tons, of which 4,130,000 tons were produced in Germany itself. The total quantity of pig iron and cast iron of the first quality produced was 1,660,208 tons. The mean working population employed in the trade was 22,765, of which number 853 were women. A table is appended to these returns giving the quantities and value of the pig and cast iron produced during the last ten years. From 960,879 tons and a value of 4,129,142*l.* in 1865 the totals increased without intermission until 1871, in which year they were 1,420,830 tons and 5,946,589*l.* In the following year, when the produce of Alsace-Lorraine was included for the first time, there was a further increase to 1,807,345 tons, and a value of 10,585,049*l.*, the rise in value, as will be seen, being considerably greater than the rise in quantity. There was an increase again in 1873 to 1,983,163 tons and 11,283,938*l.*, but a fall in 1874 to 1,660,208 tons, as stated above. The reaction of prices was also very considerable, as the 1,660,208 tons realised but 7,243,589*l.*, or about 4*l.* 8*s.* per ton, as compared to nearly 6*l.* per ton in 1873.

**The Chateau de Chantilly.**—A correspondent of the *Pall Mall Gazette* says:—"The restoration of the Château de Chantilly, which has been undertaken by the Duc d'Aumale, is advancing very rapidly, and the Bishop of Beauvais has given permission for the work to continued on Sundays, 'for reasons of extreme urgency.' The south-west wing, facing the race-course, is almost finished, and from its windows will be obtained, not only a fine view of the course, but of the large stables in which Condé gave his celebrated entertainment to Louis XIV., and which is almost the only part of the château not destroyed at the time of the Revolution. The main building is not nearly so far advanced as the south-west wing, but the large towers which are to flank the new château, precisely upon the site of the ancient manor, are beginning to rise from their foundations. The courtyard will be almost triangular in shape, and the copings of the walls will be surmounted by campaniles similar to those which decorate the Rohan and Sesdignières pavilions of the Louvre. The *Journal des Débats* has mentioned that this is not the first time Chantilly has been restored, as, during the reign of Philip of Valois, William Le Bouteiller, seigneur of Chantilly, rebuilt the ancient fortress, which had fallen into ruins.

**A Colossus for America.**—American papers mention the arrival from France of the first shipment of portions of the great statue of Liberty, which is to be erected on Bedloe's Island as a light-house. There are eight sections, packed in as many boxes, in this consignment. The casting is of dark bronze, and hollow, the bronze being between 1-16 in. and ¼ in. thick, and braced throughout with wrought-iron stays; centre rods run through these portions, taking the same direction as the casting, and are bolted to the stays. The box containing the hand and wrist is 20 ft. long and 12 ft. high. The casting is about 14 ft. by 9 ft. between extreme points, and the thumb-nail 2 ft. long by 1½ ft. wide. This section required twenty men to handle it, but was lifted by the ordinary derricks from the hold of the vessel and lowered to the wharf on skids. This consignment embraces the right arm, hand, and wrist.

**Tool Sharpening.**—The *Tischler-Zeitung* states that a razor recovers its edge if left for half an hour in water which contains sulphuric or muriatic acid in the proportion of one part by weight of acid to nineteen of water. The razor is carefully wiped on being taken out of the acidulated bath, and passed over an oil-stone. The acid bath is said not to hurt the blade; on the contrary, the quality of the metal in some cases improves by the immersion. So with scythes and sickles. The time lost in the harvest-field in the early morning in sharpening scythes would be spared by laying the blades for half an hour in a bath prepared as above described. As soon as taken out of the bath they should be wiped, and a soft sandstone hone passed along would leave a good and uniform edge behind it.

**Ancient Houses at Ipswich.**—The *Ipswich Journal* says:—We are proud of the Ancient House in the Butter-market as a connecting link between the Ipswich of the present day and that of the days when Elizabeth was Queen of England. We have, however, recently discovered an older house, and one which is in no less degree a characteristic example of fourteenth or fifteenth century architecture. In repairing a house in the Butter-market, occupied by Mr. Thurston, at a short distance from the Ancient House, it was found that the front was half-timber work in a very good state of preservation. It had been covered with lath and plaster work. The front of the house is built with the upper tenements overhanging in two stages, one at the commencement of the first-floor story, and the other at the next. Further search revealed a window, the mullions of which belonged to the Early Tudor style. The moulding on the beams, &c., is also Tudor work, and Mr. Binyon, architect, confidently pronounces the house to be at least 200 years older than the Ancient House. The proprietor, Mr. William Brown, timber merchant, is restoring this patriarch amongst our houses, as nearly as may be to its original condition.

**An Awkward Point of Law.**—At the Surrey Sessions, at Newington, on the 17th ult., it was reported that the proceedings which were pending between Surrey and Middlesex as to the liability to repair Walton Bridge had been stopped for the present, owing to the want of a proper tribunal to decide the question. The county of Surrey initiated the proceedings against the inhabitants of the county of Middlesex for the non-repair of the bridge, and from the recorded decisions it appeared clear that no inhabitant of either county could act as a juror in the case, and the venue was changed to Kent. An application to fix a day for the trial, it may be remembered, was made at Maidstone, and a point of law was raised that as the Lord Chief Justice and the other judge of assize were inhabitants of Middlesex they were interested in the cause, and could not therefore try it. The Lord Chief Justice held the objection to be fatal, and the case accordingly stood over until some means could be suggested by which it could be tried. Some members of the court suggested that either a private Bill or Act should be taken into Parliament, but after a short discussion the question remained *in statu quo*.

**Elementary School Buildings in America.** From the recent annual report issued by the Board of Directors of the St. Louis Public Schools, we learn that it is the policy of the Board to build twelve-roomed buildings, three stories in height, having four rooms on each floor, and each room placed in a corner, so as to get light from four large windows,—two in the rear of the pupils and two on the side. The school sites usually contain about 2,500 square yards, of which about 650 yards are covered with buildings. These buildings are furnished with "combination furniture," each seat adapted to two pupils; each room seats about sixty pupils. The two rooms on either side of the hall are separated by moveable partitions, so that they may be united for general exercises, such as singing, &c. It is thought that 700 pupils are quite as many as it is desirable to bring together in one building. The isolation of the pupils in rooms containing fifty or sixty pupils each, placed under the special charge of a teacher for instruction and discipline, secures, in the maximum degree, the personal influence of the teacher upon the pupil.

**The Friends' Retreat, York.**—A new building in connexion with the Friends' Retreat, in Heslington-road, York, is in course of erection from plans by Mr. E. Taylor, architect. The style is Elizabethan. The lodge set apart for gentlemen patients in the establishment having been found inadequate, the promoters resolved upon the erection, in its stead, of a large and commodious one-storied building, fitted up with every convenience that the care of Dr. Baker, the superintendent, could suggest. This new edifice is now nearing completion, and will entail an expenditure of 8,000*l.* to 9,000*l.* Mr. Cook is clerk of the works. Mr. Hebden has the masonry contract; Mr. Lee, the bricklayers' work; Mr. G. Mansfield, the joinery; Mr. Rawling, the plastering; Mr. Cattley, the slating; Mr. Yarker, the plumbers' work; and Messrs. G. N. Haden & Son, of Manchester, are entrusted with the arrangements for heating the building.

**House Building in the Suburbs of York.**—The *York Herald* says that for a long time now, notwithstanding that blocks of houses have been erected in many quarters, the demand has been largely in excess of the supply, and at the present time several plots of land in Fulford-road, off Heslington-road, Hull-road, and other parts of the city and suburbs, are being built upon. In those localities which are not within the jurisdiction of the Corporation regulations are now enforced by which it is secured that the buildings raised shall be such as sanitary science calls for, the York Rural Sanitary Authority having just lately obtained from the Local Government Board sanction to certain bye-laws for the townships of Heworth, Clifton, Gate Fulford, Dringhouses, Holgate, and St. Olave's, Marygate, which are quite as strict against "jerry building," if not more so, than those of the York Urban Sanitary Committee. The Rural Sanitary Board, with a view of carrying out the building clauses of these regulations thoroughly, are about to appoint a surveyor of buildings.

**Alleged Failure of the Highway Act.**—The highway district system, which has been in operation in Bedfordshire for a period of thirteen years, has been the subject of much dissatisfaction. On the 17th inst. a deputation of wardens and ratepayers, representing upwards of seventy parishes in the county, attended at the Shire-hall, Bedford, to memorialise the magistrates assembled in Quarter Sessions. The memorial expressed the opinion that "The Highway Act had proved a failure, the expense being greater—in some cases more than 100 per cent.,—without any commensurate improvement in the condition of the roads." In some parishes the roads were stated to be in a worse condition than when under the old system of management. It was also argued that "The maintenance of turnpike and main roads should be a charge, not upon districts or parishes, but upon the county rate or consolidated fund." In response to the deputation, the Court appointed a committee to investigate the subject.

**The Burns Statue for Glasgow.**—Some years ago a movement was set on foot to erect in Glasgow a fitting memorial of the national bard of Scotland. The execution of it was entrusted to a gentleman whose name is intimately associated with art in the West of Scotland, Mr. G. E. Ewing, and on the 24th ult. his labours were brought to fruition by the casting of the figure in bronze at the foundry of Messrs. Cox & Son, Thames Ditton, near London. The statue is of heroic size, and represents the poet as in physical embodiment he is familiar to most Scotchmen, and more especially to those who know the Nasmyth portrait. The bard holds lightly in his left hand the daisy which his muse has immortalised, and seems carried away by the thoughts which his destruction suggests. Under his right arm is the broad Kilmarnock bonnet. The costume is, that of the period—knee breeches, ribbed stockings, and shoes with broad buckles being the chief characteristics.

**Fall of a Market Roof in Leeds.**—A portion of the new market works at Kirkgate, which are being carried out by the Leeds Corporation, has come to grief rather suddenly. The portion which fell was the roof and upper part of the walls of an open arcade fronting a small portion of the row of shops now being erected on the south side of the market, the cause being that, owing to the bricklayers' scaffold being in the way, several framed bindings, which were in the contract, and were delivered on the ground, could not be fixed. The roof being proceeded with before this part of the work was completed, the weight of the slates upon the rafters thrust over the upper part of the walls. Fortunately no personal injuries were sustained, the principal damage being to the slating and brick arches, which damage will not exceed 100*l.*

**The Centennial Exhibition.**—We have received several strong expressions of dissatisfaction from exhibitors on various grounds, but it does not seem to us that it would be useful to foment differences when matters are coming to a close. Some of our readers may have heard that the packing-cases belonging to the English exhibitors and others were burnt. The commissioners having refused to provide others, counsels' opinion was to be taken, and the matter has become a "burning question." The additional awards to painters, after the appointed committee had done its work and left, is also matter for comment.

**The Female School of Art.**—Prominent among the prize works is Miss Ida Lovering's drawing of a girl's head, draped after the fashion of the Puritan period, for which she obtained the Queen's Gold Medal. The National Silver Medal was also awarded to Miss Ida Lovering. The National Silver Medal and Gilchrist prize of 50*l.* have fallen to Miss Florence Reason, for a water-colour drawing of "Passion Flowers," which deals with the subject in its various stages of growth. Miss Alice Hanslip has obtained the National Bronze Medal and the Queen's prize of 40*l.* for two heads from the life, in charcoal. These are "time sketches," and are clever drawings. For a piece of vigorously-painted still life, in oil, Miss Emily Austin won the National Bronze Medal. In addition to these, National Book Prizes have been awarded to Miss Gertrude Hamilton and to Miss Holmes for studies in water-colours.

**New Business Premises at Nottingham.** New premises for Mr. Rowe, outfitter, Low Pavement, Nottingham, have just been completed, from the designs of Mr. Alfred Smith, architect. The decorative work was done by Mr. Hindley, of Milton-street, while the general contractor was Mr. John Brown, of Bridlington Quay.

**Mycenæ.**—Dr. Schliemann continues his account of the important excavations he is conducting at Mycenæ in the *Times* of the 1st inst.

## TENDERS

For construction of drainage works for the Hastings Urban Sanitary Authority in the parishes of St. Andrew, St. Mary-in-the-Castle, and Holy Trinity:—

| | |
|---|---|
| Vidler | £2,398 0 0 |
| Cruttenden | 2,352 0 0 |
| Gasson | 2,287 0 0 |
| Geary | 2,273 0 0 |
| Doewra | 2,250 0 0 |
| Reeve | 2,092 0 0 |

For the restoration of the Parish Church of Granston, Pembrokeshire. Mr. E. H. Lingen Barker, architect:—

| | |
|---|---|
| James & Thomas | £445 0 0 |
| Jones & Jenkins | 379 14 0 |
| Lewis & Phillips | 375 0 0 |
| T. & J. Lloyd (accepted) | 373 0 0 |

For house, Prospect Hill, Walthamstow, exclusive of chimney-pieces and stoves, for Mr. T. W. Fladgate. Mr. Humphries, architect:—

| | |
|---|---|
| Fuller | £1,443 0 0 |
| Rooms & Co. (accepted) | 1,419 0 0 |

For repairs, &c., to house at Keston, for Mr. W. C. Ellis. Mr. Wm. C. Banks, architect:—

| | |
|---|---|
| Marriage | £190 0 0 |
| Parnacott | 157 15 0 |
| Copping (accepted) | 155 0 0 |

For alterations to the Book Depôt of the United Methodist Free Church. Mr. C. N. McIntyre North, architect:—

| | |
|---|---|
| Downs | £351 0 0 |
| Woodward | 309 0 0 |
| Richardson | 288 0 0 |
| Horwood | 268 0 0 |

For alterations and additions to the Northumberland Arms, Tottenham Court-road. Mr. William Paice, architect:—

| | |
|---|---|
| Kirk | £975 0 0 |
| Perkins & Co. | 962 0 0 |
| Patman & Co. | 935 0 0 |
| Cohen | 859 0 0 |
| Lamble* | 837 0 0 |

* Allowance for old materials, £2).

For repairs at Lesney Farm, Erith. Mr. Hide, architect:—

| | |
|---|---|
| Blake | £549 0 0 |
| Vickery | 475 0 0 |
| Miles | 467 0 0 |
| Hills | 459 0 0 |

For house and shop at Harrow-on-the-Hill, for Mr. W. Winkley:—

| | |
|---|---|
| Staines & Son (accepted) | £788 0 0 |

For alterations and improvements to the Jamaica Tavern, West India Docks, for Mr. H. Mackenzie. Mr. James Harrison, architect. Quantities by Mr. H. T. Gordon:—

| | |
|---|---|
| Ashby, Brothers | £2,796 0 0 |
| Merritt & Ashby | 2,750 0 0 |
| Browne & Robinson | 2,608 0 0 |
| Newman & Mann | 2,116 0 0 |
| Little | 2,049 0 0 |
| Curtis | 2,045 0 0 |
| Ennor | 2,033 0 0 |

For a public-house at Borough-green, Wrotham, for Mr. H. Simmonds. Mr. G. Friend, architect. Quantities by Mr. T. Potter:—

| | |
|---|---|
| Wiltshire | £1,819 0 0 |
| Bridge | 1,573 10 0 |
| Clements & Wallis | 1,543 10 0 |
| Durtnell | 1,514 0 0 |
| Bishop (accepted) | 1,396 15 6 |

For a residence at Wednesfield Heath, for Mr. E. Birch. Mr. J. R. Veall, architect:—

| | |
|---|---|
| Gough (accepted) | £749 0 0 |

For a new infant school at Codsall to accommodate fifty scholars. Mr. J. R. Veall, architect:—

| | |
|---|---|
| G. & F. Higham | £219 12 6 |
| J. & W. Cockerill | 193 10 0 |
| Morton (accepted) | 172 0 0 |

For a house at Sevenoaks for Mr. O. N. Swann. Mr. G. Friend, architect. Quantities by Mr. T. Potter:—

| | |
|---|---|
| Bridge | £1,849 18 0 |
| Clements & Wallis | 1,801 0 0 |
| Dove | 1,728 15 0 |
| Wheatley | 1,725 0 0 |
| Durtnell | 1,599 0 0 |
| Ashton | 1,577 0 0 |
| Wiltshire (accepted) | 1,557 0 0 |

For additions and alterations proposed to be carried out at Nos. 149 and 151, Euston-road, for Mr. E. Stenning. Messrs. Tolley & Dale, architects:—

| | |
|---|---|
| Kelly, Brothers | £1,000 0 0 |
| Williams | 995 0 0 |
| Pritchard | 987 0 0 |
| Hoare | 983 0 0 |
| Wells | 982 10 0 |
| Kirk | 950 0 0 |
| Bird | 945 0 0 |

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